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ABSTRACT

The Classroom Practices Survey was conducted to determine the extent to which gifted and talented students receive differentiated education in regular classrooms. Survey samples were third and fourth grade teachers, including a general sample of teachers in public schools (n=3993); teachers in private schools (n=980); and four samples of teachers in public schools with high concentrations of African-American students (n=592), Asian-Americans (n=587), Hispanic-Americans (n=582), and Native Americans (n=580). Approximately 50 percent of teachers surveyed responded. The major finding was that third and fourth grade teachers in all settings make only minor modifications in the regular curriculum to meet the needs of gifted students. This result holds for public school teachers, for private school teachers, and for teachers in schools with high concentrations of ethnic minorities. The same conclusion also applies to teachers and classrooms in various regions of the country and to teachers in rural, urban, and suburban communities. Teachers who make provisions for the gifted are likely to assign them advanced readings, independent projects, enrichment worksheets, and reports of various kinds. There were also few differences in regular classroom services between schools with and without formal gifted programs. Appendices include the questionnaire, data on the population samples, cover letters, and statistical analysis. (Contains 87 references.) (DB)

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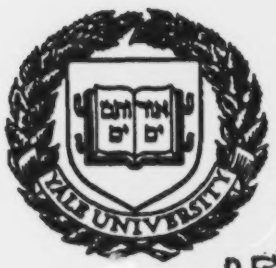

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ABSTRACT

The Classroom Practices Survey was conducted by The National Research Center on the Gifted and Talented (NRC/GT) to determine the extent to which gifted and talented students receive differentiated education in regular classrooms across the United States. Four questions guided this research: (1) Do classroom teachers modify instructional practices and curriculum materials to meet the needs of gifted and talented students?; (2) Do classroom teachers in various parts of the country and in communities of different size provide different services for gifted students?; (3) What instructional practices are used with gifted and talented students in classrooms across the country?; and (4) Are there differences in the types of regular classroom services provided for gifted students in districts with and without formal gifted programs. The survey samples, which were drawn using stratified random sampling procedures, included a general sample of 3993 third and fourth grade teachers working in public school settings, 980 private school third and fourth grade teachers, and four samples of third and fourth grade teachers in public schools with high concentrations of African-Americans students (n=592), Asian-Americans (n=587), Hispanic-Americans (n=582) and Native-Americans (n=580). A survey instrument called the Classroom Practices Questionnaire (CPQ) was developed to obtain background information on the teachers, their classroom and their school districts as well as their perceptions of their teaching behavior related to gifted and average students in their classes. Approximately 50% of the teachers surveyed responded to the questionnaire.

The major finding of this study is that third and fourth grade teachers make only minor modifications in the regular curriculum to meet the needs of the gifted students. This result holds for public school teachers, for private school teachers, and for teachers in schools with high concentrations of the four types of ethnic minorities included in this research. The same general conclusion also applies to teachers and classrooms in various regions of the country (Northeast, South, West and North Cental) and to teachers and classrooms in rural, urban, and suburban communities. Teachers who make provisions for the gifted are likely to assign them advanced readings, independent projects, enrichment worksheets, and reports of various kinds. Some classroom teachers also attempt to eliminate material that students have mastered, provide the opportunity for more advanced level work, give gifted students some input into how classroom time is allocated, and expose gifted students to higher level thinking skills, however, these modifications are not used widely. The survey also revealed that the regular classroom services provided to gifted students in schools with formal gifted programs are similar to those provided in schools without formal programs.

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EXECUTIVE SUMMARY

Introduction

Research has shown that the large majority of gifted students across this nation spend all but two to three hours per week in regular classrooms (Council of State Directors, 1987; Cox, Daniels, & Boston, 1985). It follows, therefore, that what happens in this setting will have a profound effect on what gifted students learn, how they feel about school, what subjects they take, and the career paths they follow. Since these students are among the "best and brightest" this country has to offer, what happens to them in regular classrooms will also directly affect the future of our nation.

Given its importance, it is surprising that so little research has been conducted on what happens to gifted students in regular classrooms. Goodlad's (1984) study of classroom practices, although provocative and compelling, provided no information on the extent to which the regular curriculum is being modified to meet the unique needs of the gifted. The Richardson Study (Cox, Daniels, & Boston, 1985) provided data on a wide variety of gifted program practices, including enrichment in the regular classroom, but it provided only limited information on the nature of the practices themselves. Other researchers have found that only minor modifications are being made in regular classrooms to meet the needs of the gifted (Reis, 1989), that the regular curriculum provides little challenge for gifted students (Educational Products Information Exchange, 1979; Taylor & Frye, 1988), and that many textbooks are no longer appropriate for the gifted (Bernstein, 1985), most likely because their difficulty has dropped by as much as two or more grade levels in recent years (Kirst, 1982; Steen, 1989). Little else is known about the curriculum practices and instructional techniques regular classroom teachers use with gifted students, and even more importantly, whether these practices result in differentiated education for the gifted.

Differentiating curricula for the gifted implies modifying the curriculum to meet students' differing learning rates, styles, interests, and abilities. A differentiated curriculum can involve either acceleration or enrichment. It includes experiences that focus on thinking skills, abstract concepts, advanced level content, interdisciplinary studies, and a blending of content, process, and product (Renzulli, 1986). When an appropriate differentiated curriculum is implemented, gifted students are able to explore content, ideas, problems or themes in greater breadth and depth than is possible through the regular curriculum, to use resources not normally available to them, and to develop their unique talents and interests.

Research Questions

The Classroom Practices Study was designed to determine the extent to which gifted and talented students are receiving differential education in the regular classroom setting. More specifically, it addressed four research questions:

1. Do classroom teachers modify instructional practices and curricular materials to meet the needs of gifted and talented students?

2. Do classroom teachers in various parts of the country and in communities of different size provide different services for gifted students?

3. What instructional practices are used with gifted and talented students in classrooms across the country?

4. Are there differences in the types of regular classroom services provided gifted students in districts with and without formal gifted programs?

These questions were addressed through a nationwide survey of approximately 7300 third and fourth grade teachers throughout the country.

Method

Sample

The sampling plan for the Classroom Practices Survey was developed in cooperation with Market Data Retrieval (MDR), a nationally recognized leader in school survey and market research. Available resources did not permit sampling teachers at all grade levels, and because the large majority of gifted programs occur at the elementary level (Council of State Directors, 1987), the sample was restricted to grades three and four to ensure satisfactory precision of results.

Using standard stratified random sampling procedures, a general sample of 3993 public school teachers was drawn from various parts of the country and from various types of communities. Using similar procedures, five additional samples were also selected. These included teachers in private, predominantly church-related, schools (n=980) and teachers in schools with high concentrations of four types of ethnic minorities, namely, African-Americans (n=592), Asian-Americans (n=587), Hispanic-Americans (n=582), and Native-Americans (n=580). The return rate across the six samples was approximately 50%.

Instrumentation

The Classroom Practices Questionnaire (CPQ) solicited information on the background of teachers, the policies and procedures their schools and districts had adopted for educating gifted students, and the classroom practices teachers used with gifted and average students. Teacher reports of their own behavior with both types of students provided a measure of the extent to which gifted students were receiving enriched or differentiated educational experiences. A total of 39 items were included in the classroom practices portion of the CPQ. Teachers responded to each item first for average and then gifted students using the following response scale: never, once a month or less, a few times a month, a few times a week, daily, and more than once a day.

To increase the interpretability of the results, the 39 items were reduced to the following six factors or scales using principal factor analysis: (1) Questioning and Thinking; (2) Providing Challenges and Choices; (3) Reading and Written Assignments; (4) Curriculum Modifications; (5) Enrichment Centers; and (6) Seatwork. The variance accounted for by this solution, which included all but two of the 39 items, was 38%. Alpha reliabilities for the six factors were .83, .79, .77, .72, .72, and .53, respectively.

Analysis

Data were cleaned and coded using standard procedures. Analyses were performed using mainframe and microcomputer versions of SPSS-X and SAS and included descriptive analyses performed at the item and scale levels and multivariate analyses of variance (MANOVA) with repeated measures performed at the scale level. Analyses for region of the country and type of community were conducted for the general sample of teachers only. For this sample, repeated measures MANOVAs were performed with type of student (average versus gifted) as a within subjects independent variable, the six scale scores as dependent variables, and region of the country and type of community as between subjects independent variables (i.e., separate analyses were run for each). Hotelling's T2 and Wilk's Lambda criteria were used to determine statistical significance (Tabachnick & Fidell, 1989) and univariate F-Tests were performed to follow-up significant MANOVA results. Data from the general sample were also analyzed to determine whether there were differences in the services received by gifted students in schools with formal gifted programs and those in schools without formal programs but in which teachers reported that they provided services for the gifted. These analyses used a MANOVA with repeated measures model with type of student (average versus gifted) as a within-subjects independent variable, class composition (formally identified versus teacher identified gifted) as a between subjects variable and the six scale scores as dependent variables. This same model was used to determine whether there were any student and program differences for private schools and schools with high concentrations of ethnic minorities.

Results

The results of the study are organized by the four questions which guided the research.

Research Question 1. Do classroom teachers modify instructional practices and curricular materials to meet the needs of gifted and talented students?

The most salient survey finding is that the third and fourth grade teachers who responded to this survey made only minor modifications in the regular curriculum to meet the needs of gifted students. This result was found for the general sample of public schools, for private schools, and for public schools with high concentrations of African-American, Asian-American, Hispanic-American, and Native-American students.

The most frequent provision made for gifted students by third and fourth grade classroom teachers in all types of schools was the use of Questioning and Thinking Skills (Factor 1). However, classroom teachers used questioning and thinking skills activities about as frequently for average students as gifted students. Factor 2 (Providing Challenge and Choice) assessed the extent to which teachers used advanced curriculum units, independent study, ability grouping, acceleration to higher grade level content, and other approaches to meet the needs of the gifted. Respondents indicated that they used these provisions with gifted students less than a few times a month. And again, only minor

differences were noted in the use of these provisions for gifted students as compared to average students.

Teachers indicated they used Reading and Written Assignments (Factor 3) only slightly more often than the challenge and choice activities. When asked about practices such as assigning advanced level reading or allowing extended time projects, classroom teachers indicated that they provided these options to gifted students a few times a month and to average students slightly less often. The same frequency of use was indicated for Curriculum Modifications (Factor 4). Classroom teachers indicated only moderate use of practices within this factor, such as pretests to determine mastery, elimination of material students had already mastered, substitution of different assignments in class and homework based on students' ability. These strategies were used a little more than a few times a month for both gifted and average students.

Enrichment Centers (Factor 5) were used only slightly more often for both gifted and average students, according to the teachers responding to the survey. These strategies were used between a few times a month and a few times a week with only slight differences between frequency of use for gifted and average students. For the sixth factor of the Classroom Practices Questionnaire, Seatwork, a similar pattern emerged. Classroom teachers indicated that they used enrichment worksheets and other seatwork activities only a few times a month, and the frequency of use of these activities with gifted and average students was quite comparable.

Although the results indicated only small differences between gifted and average students, it should be noted that the analytic procedure found the means for gifted students to be significantly larger than the means for average students across all analyses, except those involving the Providing Challenges and Choices factor for the African-American and Asian-American samples. In these latter two instances, no significant differences were found. Cohen (1988) and others have argued that since small differences can be statistically significant when sample sizes are large, as was the case in the present research, the magnitude of the effects must also be considered when interpreting results. Cohen suggests further that magnitude be assessed by effect size, which in its simplest form is the difference between two means divided by the pooled within-group standard deviation. Using this procedure, only one of the gifted/average differences across the six samples was found to be of medium size (.5 to .8, according to Cohen), some were in the small range (.2 to .5), but most were very small or negligible (below .2), thus leading to the conclusion that classroom teachers make only minor modifications in the regular curriculum to meet the needs of the gifted. The private school sample produced the largest differences between gifted and average students. For reading and written assignments the effect size was .78; for all other scales except enrichment centers the effect size was between .2 and .5.

Research Question 2. Do classroom teachers in various parts of the country and in communities of different size provide different services for gifted students?

The data were also analyzed to determine whether there were differences in the type of instruction and services delivered to gifted and average students in various parts of the country and in communities of different size. In general, the results found for the four regions of the country were quite similar to those found for the nation as a whole. Similar patterns of results also were found in rural, urban, and suburban communities. And in both instances only minor modifications were made in the services received by gifted students.

Research Question 3. What instructional practices are used with gifted and talented students in classrooms across the country?

Acknowledging that the modifications are minor, inspection of the individual items means indicates that teachers who provide for the gifted are likely to assign them advanced readings, independent projects, enrichment worksheets, and reports of various kinds. Some classroom teachers also attempt to eliminate material that students have mastered, provide the opportunity for more advanced level work, give gifted students some input into how classroom time is allocated, and expose gifted students to higher level thinking skills. However, gifted students are given no more opportunity than average students to work in locations other than the regular classroom, to use enrichment centers, pursue self-selected interests, work in groups with students having common interests, move to a higher grade for specific subject area instruction, work with students of comparable ability across classrooms at the same grade level, work on an advanced curriculum unit on a teacher-selected topic, participate in a competitive program focusing on thinking skills/problem solving, or receive concentrated instruction in critical thinking and creative problem solving. Further, most gifted and average students appear to participate in these experiences only a few times a month or less.

Research Question 4. Are there differences in the types of regular classroom services provided gifted students in districts with and without formal gifted programs?

Results of analyses conducted to address research question 4 indicate that the regular classroom services provided to gifted students in schools with formal gifted programs are similar to those provided in schools without formal programs but in which classroom teachers identify gifted students and make provisions for them. Few obvious differences were noted in the responses of teachers who teach in schools in which a gifted program exists and schools in which a formal program does not exist.

Conclusions

The results of this survey paint a disturbing picture of the types of instructional services gifted students receive in regular classrooms across the United States. It is clear from the results that teachers in regular third and fourth grade classrooms make only minor modifications in the curriculum and their instruction to meet the needs of gifted students. Since gifted students spend all but two or three hours per week in this environment, one could easily argue that they need more. Unfortunately, the results of this survey indicate that gifted students receive few of the services that can be used to address their unique characteristics and academic needs in an elementary classroom setting. Further, since many districts have eliminated or are in the process of eliminating resource room programs due to economic problems or concerns about the equity of grouping students homogeneously, the future appears even more bleak than the present.

The above results must be considered in light of the characteristics of classroom teachers who responded to the survey and the number of gifted students in their classrooms. Almost half of the teachers in the public school sample had obtained a Master's degree, and almost 90% were Caucasian-American, even though attempts were made to include teachers who taught in economically disadvantaged urban and rural communities. This sample of classroom teachers also had many years of teaching experience, as over 70% of the respondents had taught for more than ten years. Given the high percentage of teachers with both extensive experience and advanced degrees, we

might have expected that more of the classroom practices included in the CPQ would have been used on a regular basis both for gifted and for average students. However, it is clear from the data that many of the strategies were used infrequently, often less than once a month. Some strategies were used more often, but rarely were strategies used on a daily basis. Further, no strategies were used more than once a day. We expected that practices such as curriculum modification, use of advanced content, independent study and challenging curriculum units, for example, would have been used on a daily or weekly basis to meet the needs of gifted students.

Over one third of the classroom teachers who responded to this survey indicated that they had no 'formally' identified gifted students in their classrooms. This finding is somewhat troubling as many programs have been established in the two decades since the publication of The Marland Report. Yet, almost 38% of the teachers in the Public School sample reported no identified gifted students in their third and fourth grade classrooms, the grades at which gifted programs most frequently begin (Cox, Daniels, & Boston, 1985). This relatively high percentage may indicate that many schools and grade levels are still without formal programs and identification procedures.

The teacher background information gathered in the survey also indicated that 61% of the responding teachers had received no staff development in the area of gifted education. This finding is surprising, given the number of years that these respondents had been teaching. However, it may help to explain why classroom teachers did so little to provide different options for gifted students. Because of the results on this large national sample, concerns must also be raised about other classroom teachers across the country.

What can be done to improve the education of gifted students? First, every effort should be made to continue to offer gifted programs, thereby bringing gifted students in contact with teachers who are specially trained to meet their needs. If finances or other considerations dictate that these programs be eliminated, new and more concentrated efforts must be made to help classroom teachers provide gifted students with an enriched curriculum. These efforts must certainly include the development of curriculum materials specifically designed for classroom teacher use. They may also result in new approaches for training teachers to use these materials, to identify the gifted, to compact the regular curriculum, and to become more flexible in meeting the needs of all students, including gifted students. To enable classroom teachers to attain the skills they need to meet the needs of gifted students, a redefinition of the role of gifted specialist may be in order. In addition to serving as a resource to students, gifted specialists may also need to spend significant portions of their time serving as a resource to teachers.

Classroom teachers in schools with a gifted program employed the strategies assessed by the CPQ only slightly more frequently than teachers in schools with no gifted program. This finding may support at least two conclusions: (a) that regular classroom teachers in districts with formal programs rely on the gifted resource teacher to meet the needs of gifted students; and (b) that gifted resource teachers have little effect on what classroom teachers do to meet the needs of the gifted, probably because these resource teachers have served primarily in a teaching role. This, unfortunately, raises another question: Is the gifted specialist trained in strategies which can be used in the classroom? Many states do not have certification laws for teachers of the gifted. As a result, many of these teacher specialists have limited knowledge about how to work with gifted students. Asking them to modify their role to include staff development may require skills, experiences, and background qualifications that some gifted education specialists simply do not have. And, if the role of the gifted education specialist shifts from providing direct services to students to providing staff development and support to classroom teachers, the few hours each week that identified gifted students are working in a challenging and

stimulating environment with their peers may be lessened. Clearly, further discussion is needed about the role gifted specialists can play in improving the services gifted students receive in the regular classroom.

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Table of Contents

ABSTRACT vii

EXECUTIVE SUMMARY ix

CHAPTER 1: Introduction and Overview of the Study 1
- Background of the Research 2
  - Lack of Challenge in the Regular Classroom 2
  - Differentiation 2
- Research Questions 5
- Overview of the Study Design 6
- Conclusion 6

CHAPTER 2: Review of the Literature 7
- Curricular Modifications and Differentiation 8
- School Programming for Individual Students 10
- Use of Textbooks in Classroom Settings 12
- Lack of Challenge 13
- Instructional Strategies for the Gifted and Talented 15
- Conclusion 16

CHAPTER 3: Procedures 17
- Survey Questionnaire 17
  - Early Development 17
  - Field Test 18
  - Final Questionnaire 24
- Sampling Plan 25
  - Public School Sample 26
  - Private School Sample 29
  - Special Samples 30
- Mailing Procedures 32
- Analyses 33
  - Factor Analysis 33
  - Repeated Measures Analyses 36

CHAPTER 4: Teacher, School, and Classroom Information 39
- Teacher Background Information 39
  - Gender 39
  - Ethnicity 40
  - Teaching Experience and Degrees Earned 40
  - Training in Gifted Education 42
  - Grade Level Taught 43
- School and District Information 44
  - School Enrollments 44
  - Ethnicity of Students 45
  - Formal Definition of Giftedness and Earliest Grade Taught 48
  - District Identification Measures 49
  - Acceleration of Students 50
  - Availability of Gifted Staff 52
  - Special Programs 52
- Classroom Issues 53
  - Intact vs. Departmentalized Classes 53
  - Class Size 54
  - Special Needs Students 55

Table of Contents (continued)

Ethnicity of Students by Classroom 55
Number of Gifted Students by Class 56
Teacher Identification Procedures 57
Informally Identified Gifted Students 58
Special Needs Gifted 59

CHAPTER 5: Classroom Practices 63
Descriptive Results for Classroom Practices Items 63
Public School Sample 63
Private School Sample 65
Special Populations 67
Descriptive Results for Factor Scores 72
Public School Sample 72
Private School Sample 75
Special Populations 75
Results of Statistical Comparisons 76
Public School Sample 76
Private School Sample 85
Across Sample Comparisons for Gifted Students 88
Special Populations 90

CHAPTER 6: Summary and Conclusions 95
Methods 95
Results 96
Conclusions and Recommendations 98

References 101

Appendices 107

List of Tables

Table 1.1	Rank Order of Activities by Probability of Students' Participation	5
Table 3.1	Field Test: Response Rates by Form for Public School Teachers	19
Table 3.2	Field Test: Response Rates by Form for Private School Teachers	19
Table 3.3	Repeated Measures Analysis Comparing Teacher Responses to the Gifted Items on Forms 2, 3, and 4 of the CPQ	20
Table 3.4	Results of One-Way ANOVAs Comparing Teacher Responses to the Gifted Items on Forms 2, 3, and 4 of the CPQ	21
Table 3.5	Repeated Measures Analysis Comparing Teacher Responses to the Average Items on Forms 1, 3, and 4 of the CPQ	22
Table 3.6	Results of One-Way ANOVAs Comparing Teacher Responses to the Average Items on Forms 1, 3, and 4 of the CPQ	23
Table 3.7	Breakdown of Public School Third and Fourth Grade Teachers by Region of the Country and Type of Community	28
Table 3.8	Public School Sample by Region and Type of Community	28
Table 3.9	Breakdown of Private School Third and Fourth Grade Teachers by Region of the Country and Type of Community	29
Table 3.10	Private School Sample by Region and Type of Community	30
Table 3.11	African-American Sample by Region and Type of Community	31
Table 3.12	Native-American Sample by Region and Type of Community	31
Table 3.13	Asian-American Sample by Region and Type of Community	32
Table 3.14	Hispanic-American Sample by Region and Type of Community	32
Table 3.15	Response Rate by Sample	33
Table 3.16	Factor Solution for the CPQ With Varimax Rotation	35
Table 3.17	Sample Sizes for MANOVA Analysis	37
Table 4.1	Teacher Gender by Sample	39
Table 4.2	Teacher Ethnicity by Sample	40
Table 4.3	Years Teaching Experience by Sample	41
Table 4.4	Highest Degree Earned by Sample	42
Table 4.5	Training in Gifted Education by Sample	43
Table 4.6	Grade Level Taught by Respondents	44
Table 4.7	School Enrollment by Sample	45
Table 4.8	Ethnicity of Students in Public and Private Schools	46
Table 4.9	Ethnicity of Students in Special Population Schools	47
Table 4.10	Districts With Formal Definition of Giftedness	48
Table 4.11	Lowest Grade Level at Which District Offers a Formal Gifted Program	49

List of Tables (continued)

Table 4.12	Methods of Formally Identifying Gifted Students	50
Table 4.13	Districts With Policy on Acceleration of Students	51
Table 4.14	Nature of District Policy on Acceleration of Students	51
Table 4.15	Availability of a Gifted Coordinator or Teacher	52
Table 4.16	Out-of-Class Provisions for Gifted Students	53
Table 4.17	Percent of Teachers Teaching Various Types of Classes	54
Table 4.18	Average Class Size by Total Enrollment and Gender	54
Table 4.19	Average Number of Special Needs Students in Sample Classrooms	55
Table 4.20	Average Number of Students in Sample Classrooms by Ethnicity	56
Table 4.21	Number of Formally Identified Gifted Students in Sample Classrooms	57
Table 4.22	Teachers' Methods of Informally Identifying Gifted Students	58
Table 4.23	Percent of Teachers With Gifted Students Who Are Not Formally Identified	59
Table 4.24	Percent of Teachers With Special Needs Students Formally Identified as Gifted	60
Table 4.25	Percent of Teachers With Gifted Special Needs Students Not Formally Identified	60
Table 4.26	Teachers With Formally Identified Students by Ethnic Groups	61
Table 4.27	Teachers With Students in Various Ethnic Groups Perceived to be Gifted but Not Formally Identified	62
Table 5.1	Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - Public School Sample	64
Table 5.2	Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - Private School Sample	66
Table 5.3	Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - African-American Sample	68
Table 5.4	Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - Hispanic-American Sample	69
Table 5.5	Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - Asian-American Sample	70

List of Tables (continued)

Table 5.6	Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - Native-American Sample	71
Table 5.7	Number of Items With Effect Sizes of Various Magnitudes Across the Six Samples	72
Table 5.8	Means and Standard Deviations of Factor Scores for Gifted and Average Students - Public School Sample	73
Table 5.9	Factor Score Means for Gifted and Average Students in Public School Sample by Region of the Country	74
Table 5.10	Factor Score Means for Gifted and Average Students in Public School Sample by Type of Community	74
Table 5.11	Means and Standard Deviations of Classroom Practices Factor Scores for Gifted and Average Students in Private Schools With Programs for the Gifted	75
Table 5.12	Factor Score Means for Gifted and Average Students for Special Populations	76
Table 5.13	Results of Univariate F-Tests for the Six Factors of the Classroom Practices Questionnaire for the Main Effect of Type of Student	77
Table 5.14	Results of Univariate F-Tests for the Six Factors of the Classroom Practices Questionnaire for the Main Effect of Region of the Country	78
Table 5.15	Results of Univariate F-Tests for the Six Factors of the Classroom Practices Questionnaire for Region and Type of Student	79
Table 5.16	Results of Univariate F-Tests Comparing Community Types on the Six Factors of the Classroom Practices Questionnaire	81
Table 5.17	Results of Univariate F-Tests Comparing Classrooms With Formally Identified and Teacher Identified Gifted Students on the Six Factors of the Classroom Practices Scales	83
Table 5.18	Results of Univariate F-Tests of the Interaction of Type of Classroom With Type of Student for the Private School Sample	86
Table 5.19	Results of Univariate F-Tests Comparing Gifted and Average Students' Scores on the Six Classroom Practices Scales for the Special Populations Sample	91

List of Figures

Figure 1.1	Curriculum modifications suggested for gifted students in the regular classroom	4
Figure 3.1	States by region of the country	27
Figure 5.1	Means for gifted and average students by the six factors of the CPQ by region of the country	80
Figure 5.2	Means for gifted and average students by the six factors of the CPQ by the type of community	82
Figure 5.3	Means for gifted and average students in districts with and without formal gifted programs	84
Figure 5.4	Plot of mean factor scores for gifted and average students in private school classrooms with and without formal gifted programs	87
Figure 5.5	Plot of means for formally identified students	89
Figure 5.6	Plot of means for formally and teacher identified students	93

Regular Classroom Practices With Gifted Students: Results of a National Survey of Classroom Teachers

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CHAPTER 1: Introduction and Overview of the Study

> Evidence is mounting to suggest that the school's limitations are much less severe in teaching the fundamentals of reading, writing, and figuring - the so-called basics - than in teaching more complex abilities..... If our schools need improvements in the basics, they need - perhaps more - a fresh examination of their role in a society undergoing rapid change....The first step in any program of examination and reconstruction is to determine what now exists. (Goodlad, 1984, p. 15)

It is clear than an alarmingly large number of gifted and talented students are unchallenged in our nation's schools. Few comprehensive programs for the gifted exist, and those gifted students who do get special instruction often receive it for as little as two to three hours a week in a resource room setting with little or no modification in regular classroom activities (Council of State Directors, 1987; Cox, Daniel, & Boston, 1985). Experts have found that although acceleration produces favorable results for this population of students (Feldhusen, 1989; Kulik & Kulik, 1984), it has not been widely used. Instead, programs involving enrichment and some form of cluster grouping both within and between classrooms are more prevalent (Cox, Daniel, & Boston, 1985; Feldhusen, 1989; Gallagher, Weiss, Oglesby, & Thomas, 1983; Kulik & Kulik, 1984; Reis, 1988; Rogers, 1986).

What happens to gifted and talented students who spend the majority of their time in regular classroom settings has not been the subject of any compelling research. Surveys have been conducted on the types of special programs offered for the gifted and the availability of staff and resources, but these surveys have often had low rates of return and have been completed by administrators who have not systematically observed students' classroom experiences. They also have not specifically addressed programming needs of the underserved gifted, including ethnic minorities, the limited English proficient and handicapped students. Although Goodlad (1984) conducted a comprehensive study of classroom practices, he did not specifically target gifted students, nor did he investigate the manner in which curriculum modifications are made, or how instructional techniques are varied to meet gifted students' unique needs.

The research reported herein describes the results of a national survey of regular classroom teachers specifically addressing the issue of what happens to both traditionally identified and underserved gifted and talented students in regular classroom settings across the country. It provides the most comprehensive data on regular classroom programming

for gifted students available to date. Given the reductions in gifted programs and staff resulting from the financial ills plaguing many parts of the country, and the resultant pressure to eliminate out-of-class programs and to provide services for gifted students within the regular classroom, this research is both important and timely.

Background of the Research

Lack of Challenge in the Regular Classroom

Many educators would argue that the greatest problem facing gifted and talented students is the lack of challenge in the work they are assigned in the regular classroom. One need only enter an American classroom to realize that the work assigned to gifted students is often too easy. Research also supports this claim. For example, a study conducted by the Educational Products Information Exchange Institute (1979), a non-profit educational consumer agency, revealed that 60% of the fourth graders in the school districts studied were able to achieve a score of 80% or higher on a test of the content of their math texts *before* they had opened their books in September. Similar findings were reported in content tests with fourth and tenth grade science texts and with tenth grade social studies texts. In a more recent study dealing with average and above average readers, Taylor and Frye (1988) found that 78% to 88% of fifth and sixth grade average and above average readers could pass pretests on basal comprehension skills *before* they were covered by the basal readers. The average students were performing at approximately 92% accuracy while the better readers were performing at 93% accuracy on comprehension skills pretests. Researchers have also found that textbooks have dropped two grade levels in difficulty (Kirst, 1982; Steen, 1989) and are inappropriate for use with many high ability students (Bernstein, 1985).

Differentiation

Educators of the gifted believe that the needs of gifted students are different from those of children in general and that the regular curriculum must be modified if these needs are to be met. Ward (1961) labeled these modifications "differential education for the gifted". A decade later the Marland Report (1971) called for "differentiated educational programs and/or services beyond those normally provided by the regular school program" if gifted and talented students were to be able "to realize their contribution to self and society" (p. ix). A decade after this, The Curriculum Council of the National/State Leadership Training Institute on the Gifted and Talented established a philosophy of programs for the gifted and talented:

> The philosophy which underlies differentiated education is one which asserts that gifted/talented individuals, like all others, possess unique needs which can only be addressed through appropriately designed curricula. The ultimate object - to enable gifted/talented students to become optimally productive and capable members of society - is, of course, an educational goal for all individuals. Nonetheless, the potential of the gifted/talented for outstanding, creative, socially valuable contributions represents a different order of productivity....
>
> Our philosophy of gifted/talented education is one providing for equality of educational opportunity, with the provision, however, that equality of educational opportunity cannot be attained by identical educational experiences. (Passow, 1982, p. 5)

VanTassel-Baska (1986) provides this overview of some of the models and approaches that have been developed in the name of differential education:

> Meeker (1969) used the Guilford Structure of Intellect (SOI) to arrive at student profiles that highlighted areas of strength and weakness so that curriculum planners could build a gifted program to improve weak areas. Curriculum workbooks were structured specifically to address this need in the areas of memory, cognition, convergent thinking, divergent thinking, and evaluation. Renzulli (1977) focused on a differentiated curriculum model that moved the gifted child from enrichment exposure activities through training in thinking and research skills into a project-oriented program that dwelt on real problems to be solved. Gallagher (1975) stressed content modification in the core subject areas of language arts, social studies, mathematics and science. Stanley, Keating, and Fox (1974) concentrated on a content acceleration model to differentiate programs for the gifted. Recent writings, including Feldhusen and Kolloff (1978), Maker (1982), and VanTassel-Baska (1984) have stressed a confluent approach to differentiation of curriculum for the gifted that includes both acceleration and enrichment strategies. (p. 164)

Differentiating curricula for the gifted involves allowing for differing learning rates, styles, interests, and abilities. It involves modifying the standard or regular curriculum and adding enriched educational experiences needed by gifted children. According to Passow (1982):

> Developing a differentiated curriculum involves fashioning an environmental setting, providing human and material resources, and arranging teaching and facilitating strategies so that 'gifted responses' will occur more readily. An appropriately differentiated curriculum will increase the likelihood of high quality learning interactions - the 'stuff' of curriculum and instruction - as shown by resulting products and performances. (p. 7)

A differentiated curriculum can involve either acceleration or enrichment. It involves experiences that focus on thinking skills, abstract concepts, advanced level content, interdisciplinary studies, and a blending of content, process and product (Renzulli, Reis, & Smith, 1981). It enables gifted students to explore content, ideas, problems or themes in greater breadth and depth than is possible through the regular curriculum, to use resources not normally available to them, and to develop special talents and interests. Figure 1.1 provides an overview of the types of curriculum modifications suggested in the literature.

Figure 1.1 Curriculum modifications suggested for gifted students in the regular classroom.

Higher Level Content
Curriculum Compacting or Modification
Adaptation of Classwork for Individual Learning Styles
Assignment of More Challenging Written Work or Reading Material
Independent or Small Group Work on Assigned Topics
Learning Centers
Small Group Work on Self-Selected Interests
Use of Contracts or Management Plans to Facilitate Independent Study
Use of Instructional Grouping to Facilitate Individual Needs
Self-Directed Learning/Decision Making Opportunities for Students
Provision for Open-Ended Thinking and Problem Solving

Compiled from Betts, 1986; Feldhusen & Kolloff, 1986; Renzulli & Reis, 1986; Starko, 1986; Tannenbaum, 1986; Treffinger, 1986.

What about the degree of differentiation for gifted students in the regular classroom environment? Although criticized by some gifted educators for not focusing on gifted students (Cox, Daniel, & Boston, 1985; Feldhusen & Hoover, 1984), Goodlad's (1984) comprehensive study of schooling reported in *A Place Called School* sheds a good deal of light on what happens to all children in the regular classroom environment. His data support "the popular image of a teacher standing in front of a class imparting knowledge to a group of students" (p. 105). They also reveal that written work, listening, and preparing for assignments, three categories of activity which Goodlad says are marked by passivity, dominate the school days of elementary school students (see Table 1.1). Correspondingly, the findings of *A Place Called School* suggest a low incidence of activities invoking active modes of learning. Goodlad has this to say about meeting the needs of individual learners:

> During the past 15 years in particular, teachers have been exhorted to take account of and provide for student individuality in learning rates and styles. Our data suggest, however, that this is not something often or readily done. Students worked independently at all levels but primarily on identical tasks, rather than on a variety of activities designed to accommodate their differences. In general, there were more different kinds of instructional activities in elementary than in secondary classrooms; elementary school teachers varied the grouping of their classrooms from time to time and occasionally even changed the content and their methods of teaching. Secondary teachers rarely individualized classroom procedures. On the whole, teachers at all levels apparently did not know how to vary their instructional procedures, did not want to, or had some kind of difficulty doing so. (p. 105)

Table 1.1

Rank Order of Activities by Probability of Students' Participation [a]

Early Elementary Activity	%	*Upper Elementary Activity*	%
Written Work	28.3	Written Work	30.4
Listening to Explanations/Lectures	18.2	Listening to Explanations/Lectures	18.2
Preparation for Assignments	12.7	Preparation for Assignments	11.5
Practice/Performance-Physical	7.3	Discussion	7.7
Use of AV Equipment	6.8	Reading	5.5
Reading	6.0	Practice/Performance-Physical	5.3
Student Non-task Behavior-No Assignment	5.7	Use of AV Equipment	4.9
Discussion	5.3	Student Non-task Behavior-No Assignment	4.8
Practice/Performance-Verbal	5.2	Practice/Performance-Verbal	4.4
Taking Tests	2.2	Taking Tests	3.3
Watching Demonstration	1.5	Watching Demonstration	1.0
Being Disciplined	0.5	Simulation/Role Play	0.4
Simulation/Role Play	0.2	Being Disciplined	0.3

Adapted from Goodlad, J. *A Place Called School.* New York: McGraw Hill Book Company, 1984.

[a]Early elementary includes grades 1 through 3; upper elementary includes grades 4 through 6.

Cox, Daniel, and Boston's (1985) survey on programming for the gifted, known as the Richardson Study, was designed to obtain information on sixteen program types, including enrichment in the regular classroom. These researchers found that although over 60% of the districts in their sample reported conducting enrichment programs, less than 20% offered a substantial program. Most students were involved in enrichment activities for fewer than three hours per week. Moreover, in many instances those activities involved the total class, meaning no special effort was made to offer programs specifically geared to the needs of able learners. Because only 5 of the 96 survey items focused on enrichment in the regular classroom, the Richardson Study offers little additional information on the nature of regular classroom differentiation for the gifted. Further, no other comprehensive investigation of regular classroom differentiation has been conducted to date.

Research Questions

The Classroom Practices Study was designed to address two major research questions:

1. What instructional practices are used with gifted and talented students (including ethnic minorities, individuals of limited English proficiency, and individuals with handicaps) in heterogeneously and homogeneously grouped elementary classrooms across the country?

2. How do teachers specifically modify instructional practices and regular curriculum materials to meet the needs of gifted and talented students in heterogeneously and homogeneously grouped elementary classrooms across the country?

As these questions reveal, this study was undertaken to learn what specific instructional practices and strategies were being used to meet the needs of gifted students in regular classrooms across the country. Consistent with the requirements of the Jacob Javits Act which led to the funding of this research, the study was also concerned with the nature of the practices and strategies used with certain gifted students, particularly ethnic minorities, individuals of limited English proficiency and individuals with handicaps. Finally, it was concerned with whether or not the instructional practices used with the gifted varied by region of the country and type of community, and whether the school was publicly or privately supported.

Overview of the Study Design

The above research questions were addressed through a national survey of third and fourth grade teachers and systematic observations of a subset of the classrooms in which they worked. This report presents the results of the survey alone. A technical report by Westberg, Archambault, Dobyns, and Salvin (in press) presents classroom observation findings.

A survey questionnaire was designed and distributed to a stratified random sample of 3993 public school teachers, another stratified random sample of 980 private school teachers, and four additional samples of teachers in schools with high concentrations of African-American (n=592), Asian-American (n=587), Hispanic-American (n=579), and Native-American (n=580) students. These samples were drawn in cooperation with Market Data Retrieval, a nationally recognized leader in school survey and market research. Stratifying variables included regions of the country (Northeast, South, North Central and West) and types of communities (urban, suburban and rural). The response rate across the six (6) samples was approximately 50%, and the sampling error for all samples was less than 5 percentage points. Factor analysis was used to reduce the 39 classroom practices survey items to six (6) factors. Data were analyzed using descriptive statistical procedures (frequency distributions, means, standard deviations) as well as parametric analyses such as repeated measures multivariate analysis of variance. The latter technique was used to compare factor scores for gifted and average students in the same classroom environment.

Conclusion

Many educators of the gifted believe that the most pressing problem facing gifted students is the lack of challenge of regular curriculum materials. Within the national context of a return to heterogeneous classes, the emergence of fewer self-contained classes for the gifted and the 'back to basics' movement, it may even be assumed that this situation will worsen. Yet, what really happens to gifted students in regular classroom settings? Are special provisions made for these students? If so, what is being done? Can most classroom teachers modify curriculum? Do gifted students engage in more challenging work than other students? Are they assigned busywork? As the Jacob Javits Act states, "Unless the special abilities of gifted and talented students are recognized and developed during their elementary and secondary school years, much of their special potential for contributing to the national interest is likely to be lost." The survey of third and fourth grade teachers described in this report will provide insight into an area which has not been addressed by any national research study.

CHAPTER 2: Review of the Literature

Seven decades ago, the National Society for the Study of Education published the first of three yearbooks dealing with the education of the gifted. That volume, entitled *Classroom Problems in the Education of the Gifted*, was so well received that a second yearbook, *The Education of the Gifted*, was published only four years later. Guy M. Whipple, chairman of the committee responsible for the second volume, provided a brief history of the interest and concern for the education of gifted individuals. Whipple noted that Dr. William T. Harris, Superintendent of Schools in St. Louis, Missouri, developed the first systematic approach to providing for "bright pupils." In his school district's annual reports for 1868-69 and 1871-72, Harris referred to programming for gifted students citing advantages of "promoting pupils at short intervals, as short as five weeks in the lower grades, and of accelerating gifted pupils through the grades. He noted that the plan provided gifted pupils with more challenging work and prevented them from acquiring habits of laziness" (Passow, 1979, p.1).

In 1950, the Educational Policies Commission decried the schools' neglect of mentally superior children and the resulting reduction of manpower in the sciences, arts and professions (National Education Association, 1955). A year later, the Ohio Commission on Children and Youth reported that only 2 percent of the schools in that state had special classes for the gifted and a mere 9 percent provided any kind of enrichment in the regular classroom (Ohio Commission on Children and Youth, 1951). In a book entitled *Educational Wastelands*, Bestor (1953) charged that "know nothing educationists" had created schools that simply produced "meager intellectual nourishment or inspiration," particularly for bored gifted students who simply "marked time in their studies until graduation released them from boredom and euphoria" (Tannenbaum, 1979, p. 7).

The launching of the Soviet satellite Sputnik in 1957 proved to be a powerful stimulus for efforts to provide for the gifted and talented. Tannenbaum (1979) referred to the aftermath of Sputnik as a "total talent mobilization." Academic coursework was condensed for gifted students, college courses were offered in high schools, foreign languages were taught in elementary schools, and public and private funds were set aside for training in science and technology. Acceleration and ability grouping were used and efforts were made to identify gifted and talented minority students. New high school math and science curricula were developed, and a new awareness of and concern for high scholastic standards and career options emerged (Reis, 1990). Gifted students were expected to take difficult courses, to "...fulfill their potential, and submit their developed abilities for service to the nation" (Tannenbaum, 1979).

Unfortunately, interest in educating gifted and talented students had declined by the mid 60s (Davis & Rimm, 1989). Many of the new programs were never taken seriously enough to be continued so that they had an effect on students. The primary need to solve the problems of social unrest which plagued our country at that time overshadowed the need to bolster the nation's technology and to provide for the gifted. Nonetheless, awareness and concern was rekindled in the mid-1970s, and while currently facing budget cutbacks in some regions of the country, gifted education appears to be widely accepted in most states (Reis, 1990).

Curricular Modifications and Differentiation

The term "qualitatively differentiated programs for the gifted" has been used in state and national legislation throughout the history of the gifted education movement. Unfortunately, the term has not been precisely defined. Most educators would agree that the intellectually gifted child is one for whom the typical in-grade learning experiences are inappropriate by virtue of the child's ability to learn at a faster pace, to master high levels of content at an earlier age, and to handle abstract concepts with greater insight (Fox, 1979). "The goal of any program for the gifted should be to provide meaningful learning experiences in the most efficient and effective way in order to maximize learning and individual development and to minimize boredom, confusion and frustration" (Fox, pp. 105-106). Given a group of gifted students, a teacher should assess what they know, determine what they can do and like to do, and specify what knowledge and skills they lack and in what manner to best provide this learning. Not all educators in the field of gifted education agree on how to best accomplish this, and the classroom teacher who is faced with a group of thirty students of varying ability often finds it difficult to provide appropriate learning experiences for the gifted students in this setting.

The traditional model of classroom teaching is generally acknowledged to include the following practices: a lock-step curriculum with grade-level sequencing; division of instruction in each subject matter into units and lessons; group pacing, in which the whole class is moved through the same curriculum at approximately the same pace using the same materials and methods; and whole-class instructional methods, in which the teacher begins a lesson by reviewing prerequisite material, then introduces and develops new concepts or skills, then leads the group in a recitation or supervised practice or application activity, and finally, assigns seatwork or homework for students to complete on their own. Occasionally teachers may also work with small groups rather than the whole class and may provide some degree of individualized instruction when checking progress during individual seatwork times. Despite frequent criticism and cries for reform, whole-class instruction with recitation and seatwork has existed as the dominant approach to public school instruction since it first became established (Cuban, 1984; Goodlad, 1984; Grinder & Nelsen, 1985). The fact that this traditional approach persists suggests that it has enduring appeal, particularly because it appears to work well for average students whose rates of learning are similar to the norm for their grade. However, the traditional approach has important weaknesses which have led Good and Brophy, (1987) to call for the following changes: "Brighter students who master the curriculum more quickly should get more enrichment or accelerated pacing, slower students should get extra instruction or more time to master the material, and students with special instructional needs should be taught using materials or methods different from those that are suitable for the majority" (p. 353).

Curriculum differentiation for gifted students has been discussed for a number of years. The Marland Report (1971) stated that gifted and talented children "require differentiated educational programs and/or services beyond those normally provided by the regular school program" if they are "to realize their contribution to self and society" (p. ix). Differentiation, however, does not mean "more of the same," as Barbe and Frierson (1975) have pointed out:

> There is belated awareness today that teaching the gifted does not mean merely exposure to more work or the expectation of completing the same work in a shorter period of time. Administrative provisions have been successful in many situations, but except in the case of individual teachers there has been no consideration of the possibility that the learning pattern

followed by the gifted child is different from that of the average child. (p. 435)

Passow (1982) comments on the type of curriculum that must be designed for the gifted: "The philosophy which underlies differentiated education is one which asserts that gifted/talented individuals, like all others, possess unique needs which can only be addressed through appropriately designed curricula" (p. 5). Like all students, the gifted need learning experiences appropriate to their "individual abilities, interests, and learning styles. Individual uniqueness should be respected and provided for, and every effort should be made to adapt learning experiences to the wide variety of student needs" (Passow, p. 5). It has been shown that gifted children learn at a different rate from other groups of children and accommodating that rate is crucial to their development (Keating, 1976). "Furthermore, differences in rate or pace can be so great that these necessitate differences in kind, not merely degree, of instruction" (Ward, 1980, p. 177). Ward believes that not only can the gifted child *manage* a different curriculum, s/he *needs* a different curriculum. He urges, in considering a differentiated curriculum for the gifted, "a basis in child-centered fact for the educational program, as opposed to traditional curricular concepts and administrative practices" (Ward, 1980, p. 82). Passow (1982) concurs, believing, "A differentiated curriculum embodies recognition of differing learning rates, styles, interests, and abilities. Curriculum differentiation aims at eliciting learner responses commensurate with gifts or talents (p. 6)."

Parke (1989) provided the following guidelines for program planning in the regular classroom when considering differentiation:

1. The program should be characterized by its flexibility to respond to the individual needs of students.

2. Program options should be in place so that the varying skills, abilities, and interests of the students can be accommodated.

3. Patterns for grouping students should be based on the unique needs of the students and should allow students to progress at their own pace.

4. Decision making should be based on student needs. Individualized program planning should take place for all students. (p. 44)

VanTassel-Baska (1989) related the understanding of gifted students' needs to curriculum modification in the regular classroom. She identified four changes that needed to be made in the regular classroom: deleting or compressing the basic curriculum that has already been mastered or that can be mastered quickly; concentrating on higher level thinking skills to provide tools for the production rather than the consumption of knowledge; providing depth to the curriculum by concentrating on the interrelationships among bodies of knowledge; and encouraging self-directed learning so that the students can utilize more program options of an independent nature. She says, "...the content that the gifted receive is minimal compared to what they are capable of learning. If content were rearranged and restructured around a conceptual framework, the gifted could master whole content areas in half the time currently spent. This compression of content facilitates proficiency and learning of conceptual wholes" (p. 179).

School Programming for Individual Students

Schools can make a number of accommodations to attend to students' individual differences. Attempts to make schools more effective by fitting instruction to individual student needs have been described as individualized instruction approaches, although the terms adaptive instruction or adaptive education have been used in recent years to describe these options (Glaser, 1977; Wang & Walberg, 1985). Some individualized instruction programs mandate that all students learn the same content using the same methods and materials but allow them to progress at their own rate. Other individualized instruction approaches allow students to learn using different materials or methods but require them to show mastery in the same way. Still others allow demonstration of mastery in different ways. Regardless of the specific approach, individualized instruction implies some degree of planned differentiation in the treatment of students in the same class (Good & Brophy, 1987).

Wang and Lindwall (1984) list the following distinguishing features of adaptive education approaches: (1) instruction based on the assessed capabilities of each student; (2) materials and procedures that permit each student to progress at a pace suited to his or her abilities or interests; (3) periodic evaluations that inform the student concerning mastery; (4) student assumption of responsibility for diagnosing present needs and abilities, planned learning activities, and evaluating mastery; (5) alternative activities and materials for aiding student acquisition of essential academic skills and content; (6) student choice in selecting educational goals, outcomes or activities; and (7) students' assistance of one another in pursuing individual goals and cooperation in achieving group goals. Few individualized instruction or adaptive education programs have all seven of these features, but most include several of them (Good & Brophy, 1987).

Although reformers have called for individualized instruction in every educational era (Cuban, 1984), individualization has become easier to accomplish since the development of materials and methods specifically designed to allow teachers to modify their instruction to meet the needs of different students in the class. These materials provide instruction and practice opportunities for students who are not being taught or supervised directly by the teacher. Usually there is some initial assessment to determine where students should begin, and then the students work through the curriculum on their own. In individualized programs, students receive more of their content instruction from the curriculum materials than from the teacher, who acts more as a materials manager, tester and progress monitor than as an instructor (Good & Brophy, 1987).

In the 1960s and 1970s, several individualized learning systems were used in elementary and secondary schools (Talmage, 1975). One such system was called *Individually Prescribed Instruction* (IPI). In IPI classrooms, students usually learn individually using programmed packages, and the teacher's role is shifted from instructor to instructional manager. The teacher decides what programs are appropriate for his/her students, monitors their progress, and provides individualized help when needed. Teachers do not worry about curriculum development because materials are supplied. IPI was often used in open classroom settings in elementary schools (Glaser & Rosner, 1975; Good & Brophy, 1987).

The *Primary Education Project* (PEP) grew out of IPI and was developed as a way to provide individualized instruction in the early elementary grades. PEP allows for more teaching of the class as a whole than IPI and includes more instruction and support designed to develop students' self-management of learning and independent work skills (Wang, 1981).

The *Program for Learning in Accordance with Need* (PLAN) was developed by the Westinghouse Learning Corporation, the American Institutes for Research in the Behavioral Sciences, and several public school systems. It is a collection of activities organized by goals and designed for individualized instruction. PLAN also provides students with opportunities to select their own goals and devise their plans for meeting them (Flanagan, Shanner, Brudner, & Marker, 1973).

Individually Guided Education (IGE) is another system devised to help students learn at their own pace through activities suited to their individual needs. IGE is a strategy for managing instruction rather than a set of curriculum materials. Developed at the University of Wisconsin, the IGE model calls for both direct teacher instruction and student work on individualized assignments. However, the basic learning goals are specified by local teaching staffs rather than by the program's developers, and these local teaching staffs develop diagnostic tests to monitor student progress (Klausmeier, Rossmiller, & Sally, 1977). Teachers use tests, observation schedules and work samples to assess student achievement levels, learning styles, and motivation, and then use this information to identify appropriate objectives and develop individualized instructional programs. Students are grouped according to perceived educational needs rather than age levels and are moved to new groups or new instructional sequences depending on mastery (Good & Brophy, 1987).

Information about student achievement in individualized programs at the elementary and secondary levels is often hard to evaluate because it is usually confined to scores on the criterion-referenced tests that accompany the programs. Such data usually show success in meeting objectives of the program as formulated by its developers but they do not permit conclusions about absolute effectiveness in comparison with traditional approaches. Part of the problem in evaluating individualized programs is that their implementation differs from classroom to classroom and from year to year. Teachers use the same program differently, and teachers in a presumably individualized program may do just as much group-based instruction and no more individualized instruction than other teachers in traditional self-contained classrooms (Good & Brophy, 1987).

Consistent differences appear between individualized and traditional classes. Martin and Pavan (1976) reported that more individualized and small-group work occurred in schools that called themselves nongraded or individualized than in other schools. Shimron (1976) found that slower students were off-task much more often than bright students in IPI classrooms. Thompson (1973) found that students in PLAN classes spent most of their time working on individual projects, whereas students in traditional classes spent most of their time in whole-class work. The key appears to be the degree of implementation of the program developers' guidelines. Loucks (1976) found no general differences in mathematics and reading achievement between IGE schools and other schools in second and fourth grade classrooms. However, when she classified schools according to the degree to which they were actually implementing the program as designed, she found that high-implementation schools outperformed comparison schools on three of four achievement measures. Throughout all the approaches the individualized programs worked well when implemented, but good implementation required staff competence and commitment to such a philosophy.

Slavin (1984) suggests that for any kind of instruction to be effective, four conditions must be satisfied: (1) the instruction must be high quality, (2) the instruction must be appropriate to the students' levels, (3) the students must be motivated to work on the tasks, and (4) the students must have adequate time to learn. Slavin argues that the individualized instructional programs of the 1960s and 1970s failed to work effectively in practice because they concentrated on increasing the appropriateness of instruction but did

not address the other three essential conditions. Quality of instruction was reduced because the students were not taught directly by the teacher and were instead required to learn on their own. Students were also not adequately motivated because individualized instruction was often too boring and seldom offered incentives for moving through the curriculum rapidly (Good & Brophy, 1987).

Research has also shown that teachers have encountered difficulties in implementing individualized instructional programs in regular classrooms (Arlin, 1982; Carlson, 1982; Everhart, 1983). The main problem appears to be the student-teacher ratio. No individualized program is likely to be effective if it depends on the teacher to simultaneously provide individualized instruction to all of the students in a class, as well as develop the curriculum materials for the individualized instruction (Good & Brophy, 1987).

Use of Textbooks in Classroom Settings

One of the first characteristics noticed about gifted students is that they learn new information very quickly. Skills that normally take a week to present may be completely understood after one instructional period. Assignments designed to last for several days may be completed in one homework session. To respond to this issue, educators can institute programs within the regular classroom that allow students to complete their assignments at their own pace. With flexible pacing, the classroom teacher is able to prevent the predictable boredom experienced by students who are stifled in their work, lose interest, do the minimal amount of work needed to get by, become behavior problems, or simply acquiesce and become more like the average students for whom the pace is more likely appropriate. By employing the concept of flexible pacing, students are able to work at a pace that is appropriate for them, use materials geared to their instructional levels, and continually be challenged in their learning (Parke, 1989). A wide range of studies, from the Educational Products Information Exchange Institute's (1977) large survey of teachers to Cahen, Filby, McCutcheon, and Kyles' (1983) qualitative study of an elementary school, indicate that despite variation one might expect across subjects, grades and different levels of teacher expertise, textbooks are extensively used in schools. In a survey of several thousand teachers, EPIE found that textbooks and other commercially produced instructional materials were the basis for 67 percent of classroom instruction and that another 22 percent of classroom instruction was based on nonprint materials (Woodward & Elliott, 1990).

These general findings are supported by a number of other studies. Barton and Wilder (1964) reported a high dependence on texts to structure mathematics instruction in their study of 50 elementary classrooms. They also found from a survey that 98 percent of first-grade teachers used basals on "all or most of the days of the year," and that eighty-five percent of elementary principals in their sample considered basal materials "absolutely essential" or "very important." Turner (1988) found that 85 percent of the teachers in his survey used basal readers, and that 56 percent of the districts represented by a sample of 339 teachers required that basals be followed strictly. Weiss (1987) found that 90 percent of science and mathematics classes at each grade used textbooks. In a study of the planning activities of twelve teachers, McCutcheon (1981) found that the suggestions in mathematics and reading textbooks were the sources for 85 to 95 percent of the instructional activities in these subject lessons. In a later study, McCutcheon found that nine of ten teachers used the teacher's guide extensively and with few modifications. When teachers modified suggestions in the teacher's guide, the changes consisted of reordering questions, inserting relevant local examples, omitting material considered

redundant or too difficult, and omitting activities requiring manipulations, group work, or divergent thinking.

It seems very clear from the studies cited above that textbooks are heavily used in schools. In some cases, teachers absolutely depend on their textbooks and teacher's guides, following them very closely (Woodward & Elliott, 1990). Realizing this, it is important that educators consider the quality of textbooks when attempting to meet the educational needs of gifted students in their classrooms. Callahan, Nicely, Fiber, & Bobango (1986) found in their analysis of 11 elementary school mathematics textbooks that a significant majority (72% - 100%) of the problems in all series and at all grade levels were at the lower end of the cognitive scale. Virtually all situations in the textbooks simply required students to *iterate* (The researchers used this term to describe situations where the only behaviors involved were chains of low-level tasks, such as repeat, copy, imitate reproduce, recognize and recall). Unfortunately, textbooks have dropped two grade levels in difficulty over the past 10 to 15 years (Kirst, 1982).

Harriet T. Bernstein (1985), who has written extensively on the policies of textbook adoption and the mandated use of readability formulas, believes that publishers have been impelled to change textbooks to meet state or local readability formulas. Bernstein aptly summarizes the problem that current textbooks pose for gifted and talented students: "Even if there were good rules of thumb about the touchy subject of the difficulty of textbooks, the issue becomes moot when a school district buys only one textbook, usually at "grade level," for all students in a subject or grade. Such a purchasing policy pressures adoption committees to buy books that the least-able students can read. As a result, the needs of the more advanced students are sacrificed" (p. 465). Because of this change in the textbook industry, and because repetition is built into all curricular approaches to reinforce learning, many gifted students spend much of their time in school practicing skills and reading content they already know. This is documented by the widespread dissatisfaction expressed by so many school personnel about the use of basal textbooks for high ability students.

Lack of Challenge

Despite the availability of special programs for gifted and talented students, most bright students, even those involved in special programming, spend the vast majority of their time in regular classrooms. A very small percentage of that time is spent on activities designed to challenge advanced students. The Richardson Study, a nationwide investigation of existing practices in gifted education, reported that 58% of the respondents in schools using classroom enrichment said that students were involved in enrichment activities less than three hours per week (Cox, Daniel, & Boston, 1985). In many cases, time in the classroom is spent in activities designed to teach and reinforce concepts that students have already mastered (EPIE, 1979). This repetitious work can lead to boredom, discipline problems, inattentiveness and failure to develop organized study patterns. If such problems are to be avoided, it is imperative that the needs of bright students be addressed by examining the content and pacing of the regular classroom (Starko, 1986).

Renzulli, Reis, and Smith (1981) introduced the idea of curriculum compacting to provide gifted students with a mechanism through which they can cover the regular classroom curriculum at a faster pace. "In its simplest form, compacting consists of determining through formal and informal assessment procedures the curricular content areas that some students have already mastered or might be able to master through modified approaches to instruction (p. 78)." Feldhusen and Kroll (1985), agreeing with the need for

curricular modification, point out that "Gifted youth are bored in school because they are forced to endure hundreds of hours of instruction on things they already know or are taught new things at an intolerably slow pace" (p. 250). When a student has already mastered much of the content that will be taught, or can go through the materials more quickly than the other students, "curriculum compacting can be used to assure that the student will not have to spend time on content that is already mastered and can use that time to better advantage" (Parke, 1989, p. 85). Careful assessment of student skills is the initial step in determining if the student has mastered the content. When that is done, through objective-referenced testing, alternative plans can be considered by the classroom teacher. Options could include providing the student with other materials or with other activities in the same content area, having the student progress to more difficult objectives and skills, remediating skills that need extra work, or providing assignments in another subject area. Curriculum compacting is an organizational plan to modify or streamline the regular curriculum in order to eliminate repetition of previously mastered material, upgrade the challenge level of the regular curriculum, and provide time for appropriate enrichment and/or acceleration activities while ensuring mastery of basic skills (Renzulli, Smith, & Reis, 1982). Curriculum compacting can be used effectively for both acceleration and enrichment purposes (Parke, 1989; Renzulli, Reis, & Smith, 1981).

Along with curriculum compacting, educators involved in gifted education also have the option of streamlining or "telescoping" curriculum for bright students. Through this technique upper elementary and secondary students can have several academic years' worth of work "telescoped" into a much shorter time. For example, in a junior high school, if enough talented young mathematicians are available for special classes, a normal three-year math and algebra sequence might be taught at an accelerated pace in two years. This same telescoping can be used with other subjects (Davis & Rimm, 1989).

Unfortunately, in schools with gifted programs, classroom teachers sometimes assume that all the needs of the gifted students are being met by the special program, which usually involves each student for only 2-3 hours per week. As a result, many classroom teachers continue to assign regular curriculum work to gifted students during the approximately 20 hours of instructional time remaining in the school week (Parke, 1989; Reis, 1982). Since gifted students do not shed their advanced abilities when they enter the regular classroom, provisions for challenging these students must be considered in the context of the entire school week (Parke, 1989). Educators have long argued that a student's educational program should be determined by his or her own needs, abilities and interests (Gallagher, 1985; Maker, 1982; Parke, 1989; Passow, 1982; Renzulli, 1977; Ward, 1982). Passow (1955) states that in terms of ability, equality of educational opportunity does not mean identical opportunity: "Where ability is concerned, equality consists of providing equally well for all kinds and levels of individual differences" (p. 165).

Therefore, if all students in a classroom are reading in the same reader, working the same skill sheets, doing the same math problems or developing the same product, the educational needs of some students are not being met (Parke, 1989; Reis & Renzulli, 1989; Renzulli, 1977; Renzulli, Smith, & Reis, 1982). Such a situation is unfair for all students. While differentiated curriculum is beneficial for all students, it is essential for gifted students if they are to develop their unique gifts and talents (Passow, 1982).

A school may not have a program for officially identified gifted and talented students, yet every classroom teacher probably has students who could benefit from modification of the standard curriculum because of the advanced abilities they possess. If a student's abilities in a particular area exceed those of the other students in the class,

differentiation of the curriculum may be required to ensure the appropriateness of the educational experience for that student (Parke, 1989).

An excellent "pull-out" program, even for several hours per week, provides enrichment and independent investigation opportunities which may not be feasible in the regular classroom. However, several methods for differentiation can also be used effectively in the regular classroom, whether or not there is a formal gifted program in the school. The results of several research studies suggest that grouping according to ability or interest, in-class or across classes, is beneficial in meeting the academic needs of gifted students (Begle, 1975; Gamoran, 1990; Keating, 1976; Kulik & Kulik, 1982). Slavin (1987) cited positive effects of in-class ability grouping in order to carry out instruction in key content areas, such as reading and math at the elementary level. Parke (1989) identifies five grouping patterns to be used singly or in combination in classrooms with gifted students. These options are interest groups, cluster groups, multi-aged classes, grade skipping and telescoping.

Instructional Strategies for the Gifted and Talented

Strong arguments have also been made for the appropriate use of instructional acceleration as a method of curricular modification. Decreasing the amount of time spent on routine activities creates opportunities for enrichment and exposure to more advanced learning experiences, such as methods of inquiry or involvement with above level content (Renzulli, Smith, & Reis, 1982). Once curricular goals and objectives of proficiency in a skill have been achieved and documented, the student should no longer be kept in a particular learning "holding pattern," especially for the simple efficiency of classroom bookkeeping.

Gifted students not only have the ability to comprehend more complex material than other students, they have a need to be given the opportunity to do so (Parke, 1989; Passow, 1982). Throughout the literature on curricular modification for high ability students, one of the most frequent recommendations is added emphasis on higher levels of thinking, such as Bloom's application, analysis, synthesis and evaluation levels (1956). In describing the types of activities observed in the teaching of social studies and science, Goodlad (1983) expressed grave concern about the curriculum which appeared to be composed of topics to be acquired but not explored. He observed very little activity which involved any mental processes beyond acquisition and recall of information.

One method for facilitating both deeper and broader involvement with content is through skillful questioning. The teacher's role as initiator and determiner of the kinds of thought processes expressed in the classroom is central and crucial (Gallagher, Aschner, & Jenné, 1967). Instructor questions are the major vehicle for emphasizing more complex levels of thinking (Taba, 1966). Maker (1982) stresses the importance of asking higher level questions and emphasizes that teachers will receive answers to their questions that directly correspond to the difficulty level of the questions asked. Through skillful questioning, the teacher is actually modeling critical thinking, as opposed to acceptance of information without examination (Maker, 1982). Questioning skills provide a vital mode of information-gathering to be used by students long after they leave school. In a sense, the entire educational enterprise is an attempt to teach the students how to think by first presenting them with important knowledge and skills and then giving them opportunities to apply, analyze, synthesize, or evaluate this information.

In many gifted education programs, the most direct approach has been to identify key elements of the thinking process itself and teach these directly to students. DeBono (1983) developed the CoRT program consisting of 60 lessons on thinking intended for upper elementary school children. The program focuses on thinking skills that will help students to function better in their lives outside school (Good & Brophy, 1987). Feuerstein and his colleagues have developed the Instrumental Enrichment Program for students age nine or older (Feuerstein, Rand, Hoffman, & Miller, 1980). The program's goal is to change the cognitive structures of the students and transform them into autonomous, independent thinkers capable of initiating and elaborating ideas. These programs for teaching thinking skills seem to respond to the criticism that schooling concentrates too much on knowledge and comprehension of specific information and not enough on higher level cognitive objectives. Despite the enthusiasm with which these programs have been received by some educators, their efficacy remains to be demonstrated. The data that do exist suggest positive but limited effects. Even when programs are successful in developing certain general thinking skills, possession of these skills will not eliminate the students' need for broad experiences and domain-specific knowledge (Good & Brophy, 1987).

Conclusion

This literature review suggests that the educational needs of gifted students are not being met in regular classrooms. The significance of the problem is best expressed by a young gifted female in Connecticut describing her classroom experiences in public schools. She states: "In my 12 years in public schools, I have been placed in many "average" classes...especially up until the junior high school level...in which I have been spit on, ostracized, and verbally abused for doing my homework on a regular basis, for raising my hand in class, and particularly for receiving outstanding grades. If it had not been for honors-level classes or the TAG Program, I never would have been motivated to excel in a setting where excellence is looked down upon by the majority, nor would I have become an achiever and a leader...two things our nation as well as our city, need in a future clouded by problems" (Peters, 1990).

CHAPTER 3: Procedures

This chapter provides a detailed description of the methods and procedures used in the Classroom Practices Survey to assess the instructional practices used with gifted and talented students in regular classrooms throughout the country. The chapter begins with a description of the procedures used to develop the survey questionnaire. This is followed by a description of the sampling plan and mailing procedures. The chapter concludes with a description of the analytic strategies used to answer the major research questions.

Survey Questionnaire

As noted above, the Classroom Practices Study was undertaken to determine (1) what instructional practices are currently being used with gifted and talented students in regular classrooms across the United States, and (2) whether classroom teachers modify their instructional practices to meet the needs of gifted and talented students. The study was designed to determine whether gifted and talented students are receiving differentiated instruction in their regular classrooms, and, if they are, how this differentiation is occurring.

Early Development

A review of the literature and the researchers' experience with gifted and talented students suggested that classroom teachers could differentiate instruction for gifted students in regular classrooms in a number of ways: (1) by alternative arrangements for grouping students for instruction; (2) by providing advanced or accelerated work; (3) by offering instruction in higher level thinking skills; (4) by providing within-class enrichment activities of various kinds; (5) by modifying the regular curriculum, such as through compacting, or by providing alternative instructional formats; and (6) by providing more challenges and choices in the curriculum. With this view of differentiation in mind, a team of gifted educators and psychometricians set out to develop a survey questionnaire for classroom teachers.

Early in our deliberations we decided that to better understand the nature of the classroom instruction received by gifted and talented students we should acquire data on average students as well. We also decided that in addition to inquiring about classroom instructional practices we should inquire about district policies on the education of the gifted, the background of the teachers delivering the instruction, and the nature of the school and the classroom in which the instruction was being delivered. Consequently, we developed a questionnaire containing items concerning (1) Teacher Background, (2) School and District Policies and Procedures, (3) Classroom Issues, and (4) Classroom Practices.

The initial version of the Classroom Practices Questionnaire (CPQ) was administered to a small sample of Connecticut teachers in June, 1990. Analyses of their responses to questionnaire items as well as their reactions to the instrument itself led to a number of revisions. A revised version of the CPQ was administered in July, 1990 to a second small sample of teachers from various parts of the country. Feedback on the instrument solicited in a group discussion as well as analyses of the survey responses led to more revisions and to prolonged debate about the format of the Classroom Practices portion of the instrument.

Our initial plan was to have teachers rate classroom practices items for gifted and average students "side by side." That is, items would be presented in the center of the page with scales for rating average students on the left and gifted students on the right. However, several respondents and research team members hypothesized that certain biases might be introduced by presenting the response scales next to each other. Some felt that teachers might assume that they should be making more provisions for gifted students than they actually were, thereby artificially inflating their estimates of differentiation for the gifted. A competing hypothesis was that a form of compensatory rivalry might occur which would cause teachers to inflate ratings for average students, thereby artificially masking possible real differences between the average and gifted. A number of research team members also felt that survey response rates might be improved if a different format were used.

Field Test

Given the above concerns, as well as our desire to evaluate our mailing procedures, we conducted a field test comparing response rates and response distributions across four different versions of the questionnaire which asked for exactly the same teacher background, district, school and classroom information, but differed with respect to how the classroom practices questions were presented:

(1) *Form 1* asked teachers to respond to the classroom practices items for average students only;

(2) *Form 2* asked teachers to respond to the same classroom practices items, but for gifted students only;

(3) *Form 3* asked teachers to respond to the items for average students first and then for gifted students; and

(4) *Form 4*, the original version of the instrument, asked teachers to respond to the same set of items comparing average and gifted students "side by side."

Forms 3 and 4 were preferred over Forms 1 and 2 because the average/gifted comparisons could be made within the same classroom. However, because Forms 1 and 2 were appreciably shorter, they could yield a greater number of responses and be preferred on this basis.

The field test was conducted during October and November of 1990 with 400 public school teachers and 397 private school teachers in the state of Illinois. Each form of the questionnaire was administered to approximately 200 teachers. Response rates by form are presented in Tables 3.1 and 3.2. Because the response to the initial mailing was lower than anticipated, we decided to send a second questionnaire and cover letter to non-respondents, rather than the planned postcard reminder. We also decided to follow-up only public school teachers to control the costs of the field trial.

Tables 3.1 and 3.2 reveal that the response rates for Form 1 were higher than those for the other three forms, however, there were no sizable response rate differences across "gifted" forms (i.e., Forms 2, 3, and 4). This was somewhat surprising since we had projected appreciably higher response rates for the shorter Form 2. On the basis of response rates, then, there was no compelling evidence for choosing one "gifted" form over another.

To investigate whether there was any response bias associated with questionnaire form, we performed two repeated measures ANOVAs with the form of the instrument (three levels) a between subjects factor, the items (40 levels) a within-subjects factor, and the scores on the items (0 through 5) the dependent variable. Table 3.3, which summarizes the results of the first analysis comparing the responses for gifted students on Forms 2, 3, and 4, shows that although there was no significant main effect for form, the interaction between item and form was statistically significant. We investigated the nature of this interaction through One-Way ANOVAs for each of the items, the results of which are summarized in Table 3.4. As can be seen in this table, significant differences ($p<.05$) were found for only 8 of the 40 items. For 6 of those items, the differences were between Forms 2 and 3; the other 2 differences were between Forms 2 and 4.

Table 3.1

Field Test: Response Rates by Form for Public School Teachers

Form	Mailed	Initial Returns		After Follow-Up	
		N	%	N	%
1. Average Only	103	43	42	68	66
2. Gifted Only	92	26	28	47	51
3. Average Then Gifted	107	33	31	46	43
4. Average Next to Gifted	98	24	24	45	46
Total	400	126	32	206	52

Table 3.2

Field Test: Response Rates by Form for Private School Teachers

Form	Mailed	Initial Returns	
		N	%
1. Average Only	96	30	31
2. Gifted Only	107	32	30
3. Average Then Gifted	93	22	24
4. Average Next to Gifted	101	27	27
Total	397	111	28

Table 3.3

Repeated Measures Analysis Comparing Teacher Responses to the Gifted Items on Forms 2, 3, and 4 of the CPQ

Source Variation	df	MS	F	p
Form Type (F)	2	17.14	1.11	.333
Items (I)	39	107.50	78.39	.000
F x I	78	2.87	2.10	.000
Within Cells	5421			

Table 3.4

Results of One-Way ANOVAs Comparing Teacher Responses to the Gifted Items on Forms 2, 3, and 4 of the CPQ

Item	F	p
1	1.133	.325
2	1.624	.201
3	1.006	.368
4	1.618	.202
5	0.110	.896
6	0.874	.431
7	1.346	.264
8	0.074	.929
9	0.084	.919
10	2.431	.092
11	0.424	.655
12	0.764	.468
13	0.401	.670
14	5.256	.006 *
15	0.035	.965
16	0.845	.432
17	1.297	.277
18	1.009	.367
19	5.582	.005 *
20	0.595	.553
21	1.050	.353
22	1.044	.355
23	3.464	.034 *
24	4.197	.017 *
25	0.741	.478
26	1.026	.361
27	0.116	.890
28	1.956	.145
29	1.559	.214
30	0.292	.748
31	4.039	.020 *
32	2.207	.114
33	9.242	.000 *
34	0.009	.991
35	3.478	.034 *
36	2.180	.117
37	2.554	.081
38	2.528	.083
39	0.759	.470
40	3.402	.036 *

Note: df = 2,139 for all items; * $p < .05$

It should be noted that since statistical significance for each One-Way ANOVA was tested at the .05 level, we were surprised to have found so few statistically significant results. We interpreted these findings to mean that there were no appreciable differences in the way teachers responded to items about gifted students across forms, and, therefore, that there were no biases in responses for gifted students.

We also compared ratings of average students across forms (i.e., Forms 1, 3, and 4) using the same repeated measures ANOVA model. Results of these analyses are summarized in Table 3.5. As can be seen in this Table, we found no significant main effect, but again we found a significant interaction between item and form. Table 3.6 summarizes the results of the One-Way ANOVAs performed on each item. Again, we were surprised to find so few significant differences, this time for only 3 of the 40 items. And again we concluded that there are no biases across forms, this time for the ratings of average students.

Table 3.5

Repeated Measures Analysis Comparing Teacher Responses to the Average Items on Forms 1, 3, and 4 of the CPQ

Source Variation	df	MS	F	p
Form type (F)	2	5.52	0.42	.657
Items (I)	39	191.69	159.69	.000
F x I	78	1.84	1.53	.002
Within Cells	8619			

Table 3.6

Results of One-Way ANOVAs Comparing Teacher Responses to the Average Items on Forms 1, 3, and 4 of the CPQ

Item	F	p
1	0.715	.490
2	0.702	.497
3	1.278	.281
4	4.370	.014 *
5	0.758	.470
6	1.540	.217
7	0.121	.886
8	1.647	.195
9	0.130	.879
10	3.457	.033 *
11	0.195	.823
12	0.788	.456
13	0.019	.981
14	0.555	.575
15	2.230	.110
16	1.615	.201
17	0.097	.908
18	1.501	.225
19	3.067	.049 *
20	1.247	.389
21	2.099	.125
22	0.328	.721
23	2.421	.091
24	2.482	.086
25	0.570	.566
26	2.293	.103
27	1.245	.290
28	1.284	.279
29	0.690	.503
30	0.181	.834
31	1.384	.253
32	0.484	.617
33	0.248	.781
34	0.299	.742
35	0.790	.455
36	0.242	.785
37	0.991	.373
38	1.124	.327
39	0.235	.791
40	2.404	.093

Note: df = 2,221 for all items; * $p < .05$

The ANOVA results suggested that certain questionnaire items needed revision, and appropriate revisions in the wording of the items were made. The results also indicated that none of the biases hypothesized for Form 4 existed. That is, because there were no appreciable differences in the way classroom teachers responded to items about gifted students across Forms 2, 3, and 4, teachers did not appear to be artificially inflating scores for gifted students. Likewise, because there were no appreciable differences in how teachers responded to items about average students on Forms 1, 3, and 4, teachers did not appear to be artificially inflating scores for average students. Consequently, the original version of the instrument, Form 4, was selected for the actual survey. This form allowed for within-classroom comparisons of gifted and average students. It was also shorter than Form 3, which also supported gifted/average comparisons, and provided for smaller sample sizes than would be required if both Forms 1 and 2 were used.

Final Questionnaire

The survey questionnaire that emerged from the field trials (see Appendix A) contains six (6) pages of items that solicit information on (1) the background of responding teachers, (2) the gifted education policies adopted by the teacher's district and school, (3) the general nature of the classroom in which the respondents teach, and (4) the instructional practices they use with average and gifted students. Each of these sections of the questionnaire are described in turn below.

Teacher Information. The first section of the CPQ contains six items concerning the teacher's gender, ethnicity, years of teaching experience, highest degree earned, training in teaching the gifted and talented, and current teaching assignments (i.e., grade level taught at the time of the survey). Four of the items ask teachers to check an appropriate box (i.e., fixed response items). The other two items, years of teaching experience and grade level taught, ask teachers to write answers in the spaces provided (i.e., completion items). The last item, grade level taught, was included to ensure that the questionnaires were completed by third and fourth grade teachers.

School and District Information. This section of the questionnaire contains nine (9) items concerned with district and school policies and procedures for dealing with gifted students and one item concerned with the ethnic composition of the school. Policies and procedures items inquired about whether a formal definition of giftedness had been adopted by the district, the lowest grade level for which there is a formal gifted program in the district, the types of measures or checklists used to identify gifted students, the district policy regarding the acceleration of the regular curriculum for high ability students, whether the district employed a coordinator of programs for the gifted, whether there was a full-time or a part-time teacher of the gifted in the respondent's school, whether gifted students are transported to a different school or site for special programming, and whether a resource room or pull-out program was available for gifted students. All but one of these were fixed response items; the lowest grade level for which there is a formal program called for a written response.

In the ethnicity item, the teacher was asked to estimate the percentage of the school population belonging to various ethnic groups, including African-American, Asian-American/Pacific Islander, Native-American, Caucasian-American, and other. Although we would have liked more precise ethnicity breakdowns, we would have had to have gone to another source for this information. Because the costs would have been great, we decided to rely on teacher estimates, which admittedly may be somewhat imprecise.

We also obtained a poverty level indicator for each school from Market Data Retrieval, a nationally recognized leader in school survey and market research. This

indicator, known as the Orshansky Index, is the ratio of the number of children below the poverty line to the number of children in the school. The poverty line is determined by a formula which includes family income, size of family, gender of the head of household, and farm versus non-farm locality, using data from the 1980 census. Four poverty levels were used: (1) 0-4.9%; (2) 5.0-11.9%; (3) 12.0-24.9% and (4) 25% and above. The first category, 0-4.9%, indicates a low poverty area; the last category, 25% or higher, indicates a high poverty area.

Classroom Issues. In this section of the questionnaire, we asked teachers whether they taught an intact class or separate subjects, the enrollment of their class by gender, the number of limited English proficient and handicapped students in their class, the number of formally identified gifted students in their class, whether there were gifted students in their class not formally identified, and the types of measures or checklists they used or would use to identify gifted students. This last item allowed us to determine whether teachers used or would use identification practices not prescribed by the district. We also asked teachers the number of limited English proficient and handicapped students formally or informally identified as gifted in their classrooms. Finally, we asked the number of students in their classrooms in various ethnic groups, and the number of these that were formally or informally identified as gifted.

Classroom Practices. The last section of the questionnaire contains 39 items concerning instructional strategies and other classroom practices. Comparison of teachers' responses for average and gifted students provides a test of the extent to which differentiation is occurring in regular classrooms across the United States.

Teachers were asked to respond to each item by indicating how frequently they used a particular practice with average and gifted students:

0 = Never
1 = Once a month, or less frequently
2 = A few times a month
3 = A few times a week
4 = Daily
5 = More than once a day

This scale was selected because it captured classroom teacher's decision making regarding instructional planning and delivery and also allowed for parametric analyses of the resulting data.

Sampling Plan

The sampling plan was developed in cooperation with Market Data Retrieval (MDR). Because the large majority of gifted programs across the country occur at the elementary level (Council of State Directors, 1987), we surveyed elementary classroom teachers. We also decided to restrict the population to third and fourth grades to increase the precision of our estimates.

In addition to generalizations to the nation as a whole, we wanted to compare responses from teachers in various parts of the country and from various types of communities. Consequently, we decided to draw a stratified random sample of third and fourth grade teachers using region of the country and type of community as stratifiers. We selected four regions (Northeast, South, North Central, and West) based on definitions

used by the Bureau of the Census (Bureau of the Census, 1982). Figure 3.1 provides map depicting states by region. We selected three community types using school zip codes and Metropolitan Statistical Area (MSA) definitions developed by the Census Bureau:

1. *Urban* - Those zip codes that comprise the central city that gives its name to the Metropolitan Statistical Area;
2. *Suburban* - Those zip codes that fall within the geographic confines of the Metropolitan Statistical Area (usually based upon county boundaries) but outside the central cities; and
3. *Rural* - Those zip codes that do not fall within the boundaries of a Metropolitan Statistical Area.

Given these definitions, we drew a random sample of third and fourth grade public school teachers representing the 12 cells of the sampling design (4 regions x 3 types of communities). We also drew a sample of private school teachers, as well as additional samples of teachers in schools with high concentrations of four types of ethnic minority students: (1) African-Americans; (2) Asian-Americans; (3) Hispanic-Americans; and (4) Native-Americans. Procedures used for selecting each sample will be described in turn.

Public School Sample

Given available resources, we decided to draw a stratified sample of 4000 public school third and fourth grade teachers. With this size sample and a projected response rate of 50% we would be able to provide national estimates that would vary from population parameters by no more than 2.2% (i.e., a sampling error of 2.2%). We would also be able to estimate public school practices by region of the country (assuming 1000 teachers per region) that would vary from population parameters by no more than 5% and by type of community (assuming 1333 teachers per community type) that would vary by no more than 4%.

Market Data Retrieval maintains a continually updated data base of district, school and teacher information for all school districts in the United States. We asked MDR to provide a count by state and type of community of third and fourth grade teachers. A total of 220,975 teachers were distributed as shown in Table 3.7. Thus, our public school sample contained approximately 1.8% of the regular classroom teachers who come into contact with third and fourth graders across the United States.

The state counts on which the breakdown in Table 3.7 is based enabled us to draw a random sample for each cell of the design with each state contributing to its respective cell in proportion to the number of third and fourth grade teachers in the state. We asked MDR to randomly select the specified number of teachers by state and type of community (see Appendix B for a state-by-state breakdown) and provide us with pressure sensitive mailing labels, a printout of the labels and a computer tape of the information on the labels. MDR selected the individual classroom teachers through a systematic sampling procedure in which every *n*th teacher was selected from a list of teachers within the state and region, n was determined on the basis of the proportion of teachers needed.

Figure 3.1 States by Region of the Country

Table 3.7

Breakdown of Public School Third and Fourth Grade Teachers by Region of the Country and Type of Community

	Type of Community			
Region	Urban	Suburban	Rural	Total
West	14,931	19,881	11,902	46,714
North Central	16,888	17,888	22,468	57,244
South	24,569	19,178	34,726	78,473
Northeast	11,072	16,831	10,651	38,544
Total	67,460	73,768	79,747	220,975

Because Illinois was used to pilot test the Classroom Practices Questionnaire, we expected that some of the teachers who were part of the pilot survey would be reselected for the study. We therefore checked the names on the Illinois sample list against the pilot sample and removed from the list those who had been reselected. This resulted in the final breakdown of 3993 public school teachers as shown in Table 3.8.

Table 3.8

Public School Sample by Region and Type of Community

	Type of Community			
Region	Urban	Suburban	Rural	Total
West	245	321	196	762
North Central	305	318	407	1030
South	470	387	647	1504
Northeast	199	305	193	697
Total	1219	1331	1443	3993

Private School Sample

The second sample consisted of 1000 third and fourth grade teachers employed in private schools across the nation. Assuming a 50% response rate, this size sample yields estimates of private school practices that vary from population parameters by no more than 4.4%. It also allows for comparisons of private school practices with those in public schools. Although stratified random sampling procedures were used, the error rates would be too high to support analyses of the private school data by region of the country or by type of community.

The procedures for selecting the private school sample, which consisted primarily of teachers in church-related schools, paralleled those for public schools. As can be seen in Table 3.9, MDR maintained information on 27,706 private school teachers. Consequently, our projected sample of 1,000 represented 3.6% of the population. After eliminating the private school teachers sampled in the Illinois pilot, we were left with 980 private school third and fourth grade teachers distributed as shown in Table 3.10. Appendix B provides a breakdown of this sample by state, region and type of community.

Table 3.9

Breakdown of Private School Third and Fourth Grade Teachers by Region of the Country and Type of Community

	Type of Community			
Region	Urban	Suburban	Rural	Total
West	1,895	2,358	713	4,966
North Central	3,924	2,617	2,641	9,182
South	3,885	1,714	1,870	7,469
Northeast	2,738	2,441	910	6,089
Total	12,442	9,130	6,134	27,706

Table 3.10

Private School Sample by Region and Type of Community

Region	Type of Community			
	Urban	Suburban	Rural	Total
West	61	78	24	163
North Central	134	88	90	312
South	149	67	70	286
Northeast	98	87	34	219
Total	442	320	218	980

Special Samples

To ensure that ethnic minorities were represented in our research, we drew four additional samples, one each for schools with high concentrations of African-American, Hispanic-American, Asian-American, and Native-American students. These groups were defined as follows:

African-Americans - A person having origins in any of the black racial groups of Africa.

Hispanic-Americans - A person of Mexican, Puerto Rican, Cuban, Central American, South American or other Spanish culture or origin, regardless of race.

Asian-Americans - A person having origins in any of the original peoples of the Far East, Southeast Asia, the Pacific Islands, or the Indian subcontinent.

Native Americans - A person having origins in any of the original peoples of North America and maintaining cultural identification.

By high concentrations we meant that 25% or more of the student body must be classified as the minority in question. Market Data Retrieval maintains data on the ethnic composition of schools across the country, and we used these data to make our selections.

Given available resources, we decided to draw a sample of 600 third and fourth grade teachers for each of the four minority classifications. This means that the sampling error for estimates for each of the groups, again assuming a response rate of 50%, would be 5.6%. Samples of this size would support comparisons with the general and private school populations. However, analyses by type of community and region of the country would not be supported, and were not performed.

Following the sampling procedures described above, we selected four samples of 600 teachers each. Eliminating duplicates from the Illinois Field Trial as well as duplicates from the general public school sample resulted in 592 teachers in schools with high concentrations of African-Americans, 580 in schools with high concentrations of Native-Americans, 587 in schools with high concentrations of Asian-Americans, and 579 in schools with high concentrations of Hispanic-Americans. Tables 3.11 through 3.14 provide breakdowns of these samples by region and type of community. State breakdowns are provided in Appendix C.

Table 3.11

African-American Sample by Region and Type of Community

	Type of Community			
Region	Urban	Suburban	Rural	Total
West	7	11	0	18
North Central	91	12	3	106
South	161	53	168	382
Northeast	67	17	2	86
Total	326	93	173	592

Table 3.12

Native-American Sample by Region and Type of Community

	Type of Community			
Region	Urban	Suburban	Rural	Total
West	0	19	330	349
North Central	0	0	53	53
South	0	37	141	178
Northeast	0	0	0	0
Total	0	56	524	580

Table 3.13

Asian-American Sample by Region and Type of Community

	Type of Community			
Region	Urban	Suburban	Rural	Total
West	313	146	128	587
North Central	0	0	0	0
South	0	0	0	0
Northeast	0	0	0	0
Total	313	146	128	587

Table 3.14

Hispanic-American Sample by Region and Type of Community

	Type of Community			
Region	Urban	Suburban	Rural	Total
West	130	144	55	329
North Central	1	1	3	5
South	109	34	49	192
Northeast	46	9	1	56
Total	286	188	108	582

Mailing Procedures

As noted earlier, field trials revealed that sending the questionnaire and a follow-up postcard would likely result in response rates lower than the projected 50%. Consequently, we altered our original procedures by including a pre-notification letter, a modest incentive and a follow-up questionnaire. Pre-notification letters describing the study and requesting help in completing the survey were mailed to teachers in January 1991. One week later teachers were sent a survey packet, including another letter, a color-coded questionnaire, a postage-paid return envelope, and an incentive. The incentive was a sheet of ten (10) smiling-face stickers and a thank you note from The National Research Center on the Gifted and Talented. Three weeks after this packet was mailed, follow-up

surveys accompanied by another letter, an additional sheet of stickers, and a postage-paid envelope were sent to non-respondents (see letters in Appendix D).

A total of 7314 surveys were mailed, and 3880 were returned for an overall return rate of approximately 53% (see Table 3.15). Response rates by sample varied from approximately 42% for private schools to almost 57% for public schools. Response rates based on usable returns ranged from approximately 36% for private schools to approximately 51% for public schools. Sampling errors were 2.2% for public schools, 5.3% for private schools, and 6.3%. 5.8%, 6.2% and 5.9% for schools with high concentrations of African-Americans, Asian-Americans, Hispanic-Americans, and Native-Americans, respectively.

Table 3.15

Response Rate by Sample

Sample	Final Sample Size	Number of Responses	Response Rate	Usable Responses	Response Rate
Public School	3,993	2,258	56.5%	2049	51.3%
Private School	980	414	42.2%	351	35.8%
African-American	592	274	47.9%	242	42.3%
Asian-American	587	320	55.3%	286	48.7%
Hispanic-American	582	289	49.6%	252	43.3%
Native-American	580	325	56.0%	276	47.6%
Total	7,314	3,880	53.1%	3,456	47.1%

Analyses

Standard data cleaning and coding procedures were used to prepare the data for statistical analysis. Descriptive statistics were calculated for the items included in the teacher background, school and district, and general classroom sections of the CPQ. Classroom practices data were analyzed using multivariate repeated measures analysis of variance procedures, as described below.

Factor Analysis

Responses to the 39 classroom practices items were factor analyzed to determine if a theoretically and statistically defensible set of subscales could be found. Because time permitted only one large scale field trial of the survey questionnaire, and because that trial resulted in modifications to the classroom practices items, data from the final administration of the instrument were used in the factor analyses. A variety of analyses were performed because teachers responded to the classroom practices items for formally identified gifted

students, students not formally identified but thought by their teacher to be gifted, and average students.

Teacher ratings of formally identified public school gifted students were analyzed using principal axis factoring with varimax rotation (Tabachnick & Fidell, 1989). This procedure was also applied to ratings for informally identified public school gifted students (i.e., students not formally identified as gifted but identified as such by their teacher), to ratings for formally and informally gifted students combined, and to teacher ratings for public school average students. Principal axis factoring is a widely used and commonly understood procedure for extracting maximum orthogonal variance from the data set with each succeeding factor. Varimax rotation is used "to simplify factors by maximizing the variance of the loadings within factors, across variables." The spread in loadings is maximized, that is, loadings that are high after extraction become higher and loadings that are low become lower. Interpreting a factor is easier because it is obvious which variables correlate with it (Tabachnick & Fidell, 1989, p. 628). Eigenvalues greater than 1.0 and scree plots were used to determine the number of factors. For the most part, items with loadings of 0.35 and above were classified as contributing to a factor. A few items with loadings below 0.35 were assigned to factors when such a decision was conceptually meaningful.

Results of the initial analysis of ratings for formally identified students produced an 11 factor solution. However, examination of the factor loadings and the distribution of items by factor revealed that the generally accepted rule of at least three items per factor was violated (Tabachnick & Fidell, 1989). Two items with particularly low loadings (items 14 and 39) were therefore eliminated and the principal factor analysis was repeated. This analysis yielded a 9 factor solution using the eigenvalue criterion and a 6 factor solution using the scree plot criterion. Because 6 factors were expected on theoretical grounds, a 6 factor solution was forced. The resulting solution accounted for approximately 38% of the variance with loadings as shown in the first column of Table 3.16. Based on the clustering of items, the factors were labeled as follows: (1) Questioning and Thinking; (2) Providing Challenges and Choices; (3) Reading and Written Assignments; (4) Curriculum Modifications; (5) Enrichment Centers; and (6) Seatwork. Alpha reliabilities for the factors were .83, .79, .77, .72, .72, and .53, respectively.

As noted above, these analyses were repeated for teacher identified (i.e., informally identified) gifted students, for the formally and teacher identified groups combined, and for average students. The factor loadings, reliability estimates and percent of variance accounted for in each sample are included in Table 3.16. These results provide additional support for the 6 factor solution found for formally identified gifted students.

Although most teachers responded to all the Classroom Practices items, some did not. Thus, we adopted the rule that a teacher must respond to at least 50% of the items relating to a factor in order to receive a score for that factor. A mean substitution procedure was used to generate scores for items with missing values. When a teacher failed to respond to at least 50% of the items relating to a factor, scores on that factor were recorded as missing. Factor scores, more appropriately called scale scores, were obtained by calculating the mean of the responses to the individual items comprising the factor. Since scores were calculated separately for average and gifted students, a total of 12 scale scores were derived for each respondent.

Table 3.16 Factor Solution for the CPQ With Varimax Rotation

Item		Factor Loading[1] Gifted	Perceived	Both	Average
	Factor I				
22	Teach thinking skills in regular curriculum	.483	.449	.477	.487
35	Provide questions to encourage reasoning & logical thinking	.754	.753	.755	.753
36	Ask open-ended questions	.833	.800	.825	.827
37	Encourage students to ask higher-level questions	.746	.718	.736	.746
38	Encourage student participation in discussions	.566	.578	.531	.524
	Alpha reliability	*.831*	*.832*	*.826*	*.824*
	Factor II				
18	Allow students to work in location other than class	.283	.072	.304	.228
23	Teach unit on thinking skills	.411	.097	.374	.367
24	Competitive thinking skills/problem solving program	.414	.184	.394	.450
25	Contracts or management plans for independent study	.444	.205	.466	.435
26	Time for independent study projects	.487	.241	.507	.402
27	Work from higher grade textbook in class	.407	.459	.407	.501
28	More advanced curriculum unit	.456	.337	.463	.464
29	Group by ability across classrooms	.220	.313	.201	.250
30	Send to higher grade for specific area instruction	.259	.374	.252	.319
31	Establish interest groups	.489	.123	.483	.454
32	Consider student's opinion in allocating time for subjects	.423	.154	.403	.382
33	Programmed or self-instructional materials	.430	.232	.408	.364
34	Encourage students organize long-range projects	.503	.137	.495	.454
	Alpha reliability	*.794*	*.791*	*.776*	*.780*
	Factor III				
3	Assign advanced level reading	.398	.218	.420	.396
5	Assign reports	.646	.421	.632	.619
6	Assign extended-time projects	.560	.493	.568	.560
7	Assign book reports	.537	.333	.520	.485
9	Creative or expository writing; topic selected by teacher	.492	.330	.486	.491
10	Creative or expository writing; topic selected by student	.520	.274	.508	.496
	Alpha reliability	*.772*	*.772*	*.720*	*.773*
	Factor IV				
12	Pretests to determine mastery	.250	.409	.287	.291
13	Eliminate curricular material students have mastered	.500	.535	.509	.420
15	Different assignments for students mastering regular material	.610	.631	.626	.585
16	Alternative instructional formats	.500	.421	.465	.523
19	Different homework based on ability	.391	.426	.419	.367
	Alpha reliability	*.722*	*.736*	*.689*	*.687*
	Factor V				
11	Time for self-selected interests	.370	.301	.344	.308
17	Students work in various locations around classroom	.305	.314	.334	.337
20	Use learning centers to reinforce basic skills	.733	.767	.744	.757
21	Use enrichment centers	.737	.733	.744	.723
	Alpha reliability	*.722*	*.712*	*.704*	*.710*
	Factor VI				
1	Use basic skills worksheets	.514	.562	.541	.525
2	Use enrichment worksheets	.590	.565	.551	.488
4	Use self-instructional kits	.322	.357	.343	.346
8	Use puzzles or word searches	.368	.338	.372	.387
	Alpha reliability	*.525*	*.521*	*.475*	*.499*
	Amount of variance accounted for	*37.6*	*36.8*	*37.0*	*35.5*

1 "Gifted" refers to the sample in which students were formally identified as gifted.
"Perceived" refers to the sample in which students were not formally identified as gifted but thought by their teachers to be gifted.
"Both" refers to the above combined samples.
"Average" refers to the sample at ratings for average students.

Repeated Measures Analyses

A multivariate repeated measures analysis of variance design was used to test hypotheses emanating from the major research questions. Since teachers were asked to report on their practices with both gifted and average students, a repeated measures model was needed to account for the correlation between gifted and average ratings. Since gifted and average ratings were compared on 6 correlated scales, MANOVA would control the experiment-wise alpha level. The primary model included type of student (average versus gifted) as a within-subjects factor and scores on the 6 scales as dependent variables. Because there was an interest in determining whether gifted students who were formally identified received different services than teacher identified gifted students, an additional between-subjects identification factor (formal versus teacher identification) was included in the design. Data from the private school and special samples were also analyzed using this approach. Public school data, which supported comparisons by region of the country and type of community, extended the model to include these two variables as between-subject factors.

Sample sizes for the MANOVAs were smaller than the sample sizes displayed in Table 3.15, for two reasons. First, some responding teachers had no gifted students in their classrooms. Since all MANOVAs included type of student (average versus gifted) as a within-subjects variable, only those classrooms with both types of students could be included in the analyses. As can be seen in Table 3.17, this reduced the sample size appreciably. Second, some teachers didn't respond to all the classroom practices items. If they missed an item but responded to more than 50% of the items comprising a scale, mean substitution was used to assign value to missing item. However, if they answered fewer than 50% of the items comprising a scale, they were assigned a missing value for the scale. Since respondents had to have valid scores for all 6 scales for both average and gifted students to be included in the analyses, the number of cases was again reduced. Table 3.17 summarizes the impact of these two conditions on the MANOVA sample sizes.

Table 3.17

Sample Sizes for MANOVA Analysis

		Teachers with Gifted Students			Teachers with Missing Values for CPQ Scales		Final MANOVA Sample Size	
Sample	Useable Responses	Actual	Perceived	None	Actual	Perceived	Actual	Perceived
Public	2,049	1,121	452	475	103	40	1,018	412
Private	351	58	181	112	10	32	48	149
African-American	242	133	47	62	17	13	116	34
Asian-American	286	200	33	53	17	4	183	29
Hispanic-American	252	131	53	68	4	30	127	23
Native-American	276	126	76	74	11	8	115	68

CHAPTER 4: Teacher, School, and Classroom Information

The Classroom Practices Questionnaire contains 6 pages of questions and items which provide information on (1) the background of the responding teachers, (2) the policies concerning gifted education followed within the target district and school, (3) the general nature of the classroom in which the responding teacher is employed, and (4) the instructional practices the teacher uses with average and gifted students. This chapter presents descriptive information on the teachers who completed the survey, the schools and districts in which these teachers were employed and the classrooms they taught. The following chapter presents results relating to the classroom practices items.

Teacher Background Information

Teachers were asked about their gender, ethnicity, years of teaching experience, highest degree earned, training received in teaching the gifted and talented, and the grade level at which they were teaching at the time of the survey. Teachers' responses to each of these questions will be described in turn.

Gender

Table 4.1 portrays the gender of the participating teachers by sample. At least 90% of the teachers in the public, private, African-American, and Asian-American samples are females. Approximately 89% of the teachers in schools with high concentrations of Hispanic-Americans are also female, as are 85% of the teachers in the Native-American sample.

Table 4.1

Teacher Gender by Sample

			Special Populations			
Gender	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Male	9.7	4.6	2.5	14.1	10.3	8.0
Female	90.0	94.9	97.1	85.1	88.9	91.3
No Response	0.3	0.6	0.4	0.7	0.8	0.7
Total	100.0	100.1	100.0	99.9	100.0	100.0

Note: Table entries indicate percent of teachers in each category. Totals do not equal 100.0% due to rounding errors.

Ethnicity

The percent of teachers in each ethnic group is described in Table 4.2. For both the public and private samples an overwhelming majority of the teachers are Caucasian. Likewise, for three of the special samples (i.e., African-American, Native-American, and Hispanic-American) most teachers are also Caucasian, but sizable percentages have the same ethnic background as defines the sample. For the Asian-American sample the majority of the respondents are Asian-Americans/Pacific Islanders. This is the only sample in which non-Caucasian teachers represent the majority of the respondents.

Table 4.2

Teacher Ethnicity by Sample

			Special Populations			
Ethnicity	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
African-American	5.7	2.0	23.1	1.1	6.3	1.0
Asian-American/ Pacific-Islander	0.7	2.3	0.4	0.7	3.2	65.0
Hispanic-American	2.3	1.7	2.5	3.3	19.8	2.4
Native-American	1.9	2.0	1.7	17.0	1.6	0.7
Caucasian-American	88.5	90.3	71.1	76.4	67.1	28.0
Other Ethnicity	0.4	0.9	0.4	0.7	0.4	1.7
No Response	0.5	0.9	0.8	0.7	1.6	1.0
Total	100.0	100.1	100.0	99.9	100.0	99.8

Note: Table entries indicate percent of teachers in each category. Totals do not equal 100.0% due to rounding errors.

Teaching Experience and Degrees Earned

Years of teaching experience (see Table 4.3) ranged from less than one to over thirty years. Although some differences can be noted across samples, a comparatively small percentage of the teachers had five or fewer years experience while the large majority reported having more than ten years experience. Regarding the highest degree earned (see Table 4.4), most teachers reported having either a Bachelors or Masters degree, but a small percentage of the respondents reported having degrees beyond the Masters. It should be noted that 35.7% of the teachers in schools with high concentrations of Asian-American students reported having a Professional Diploma, and 4.5% reported having a Ph.D. or Ed.D.

Table 4.3

Years Teaching Experience by Sample

			Special Populations			
Years Experience	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
0 - 5	13.6	23.9	17.4	19.5	18.0	13.2
6 - 10	15.6	18.1	14.5	15.9	20.0	12.5
11 - 15	17.1	20.8	16.5	21.3	17.2	5.2
16 - 20	22.6	14.0	20.7	20.3	16.6	17.0
21 - 25	16.4	10.0	11.6	8.3	14.8	22.6
26 - 30	8.7	4.6	12.9	6.2	5.6	16.7
Over 30	3.4	5.1	4.0	4.5	4.4	7.1
No Response	2.4	3.7	2.5	4.0	4.0	4.9
Total	99.8	100.2	100.0	100.0	100.0	100.0

Note: Table entries indicate percent of teachers in each category. Totals do not equal 100.0% due to rounding errors.

Table 4.4

Highest Degree Earned by Sample

Years Experience	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
BA/BS	51.6 [1]	69.8	47.5	62.7	55.2	32.3
MA/MS	42.1	26.2	47.9	30.1	35.7	21.1
Sixth Year	2.3	0.6	2.1	1.8	3.2	2.4
Professional Diploma	1.1	1.4	1.7	1.1	2.4	35.7
PhD/EdD	0.5	1.4	0.4	0.4	1.2	4.5
Other	2.1	0.6	0.0	3.3	1.6	3.8
No Response	0.2	0.0	0.0	1.1	0.8	0.3
Total	99.9	100.0	99.6	100.5	100.1	100.1

Note: Table entries indicate percent of teachers in each category. Totals do not equal 100.0% due to rounding errors.

Training in Gifted Education

The majority of the teachers reported they had no training in gifted education (see Table 4.5). However, almost a third of the public and private sample teachers and 24% or more of all the "special sample" teachers, except Asian-Americans, said they had enrolled in a course in gifted education at a college or university. Between 10% and 21% also said they took a workshop outside the district, and between 19% and 43% said they participated in a district inservice on gifted education. Very few teachers reported having a degree in this field.

Table 4.5

Training in Gifted Education by Sample

Training	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
District Inservice	40.0	19.4	32.2	30.1	42.9	29.7
Workshop Outside District	19.7	16.5	9.9	21.0	19.8	9.8
College course(s)	29.5	33.3	24.0	28.6	27.0	16.4
Degree in Gifted/ Talented	1.1	0.9	1.2	0.4	0.8	1.0
No Training	60.8	53.3	49.2	56.5	62.7	42.3

Note: Table entries indicate percent of teachers in each category. Totals do not equal 100.0% because teachers could choose more than one option.

Grade Level Taught

Although we selected third and fourth grade teachers, we asked respondents to tell us whether they taught these grades alone or in combination with other grades. As can be seen in Table 4.6, the large majority of the respondents taught students at a single grade level. However, some teachers taught in combined third and fourth grade classrooms and a few taught in combined fourth and fifth grade settings.

Table 4.6

Grade Level Taught by Respondents

Grade Level Taught	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Third	48.6	47.0	48.3	51.1	48.4	48.3
Fourth	45.5	38.2	44.2	39.9	42.1	41.6
Third & Fourth Combined	4.3	11.4	3.3	7.2	7.5	4.9
Fourth & Fifth Combined	1.6	3.4	4.1	1.8	2.0	5.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Table entries indicate percent of teachers in each category.

School and District Information

Market Data Retrieval supplied school enrollment data. Teachers provided information on student ethnicity, whether a formal definition of giftedness had been adopted by their district and, if it had, the lowest grade level served and the procedures used for identifying the gifted, whether the district had a policy for accelerating the curriculum for high ability students, the types of special staff available for meeting the needs of gifted students, and whether special programs were available for the gifted. Responses to each of these items will be described in turn.

School Enrollments

Table 4.7 provides a breakdown of school enrollments for each of the six samples. For the public school sample, almost 90% of the schools enrolled 800 or fewer students and over 50% enrolled between 400 to 800 students. Private schools generally had lower enrollments than public schools with 92% having fewer than 400 students. Schools with high concentrations of African-American, Hispanic-American, and Asian-American students tended to have larger enrollments than schools in the public or private samples. Native-American schools tended to be smaller than all other "special sample" schools, and smaller than public schools as well.

Table 4.7

School Enrollment by Sample

Enrollment	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Special Populations: Native-American n = 276	Special Populations: Hispanic-American n = 252	Special Populations: Asian-American n = 286
1 to 200	6.5	41.9	2.1	19.6	2.0	1.7
201 - 400	29.6	35.9	19.4	36.9	14.7	20.0
401 - 600	34.1	13.9	38.4	26.5	27.7	34.2
601 - 800	19.3	4.3	22.3	10.1	31.4	22.1
801 - 1000	7.0	2.3	12.0	6.9	12.3	6.6
1001 - 1200	2.3	0.8	2.5	0.0	6.0	13.0
Over 1200	1.2	0.9	3.3	0.0	6.0	2.4
Total	100.0	100.0	100.0	100.0	100.1	100.0

Note: Table entries indicate percent of schools with enrollment shown.

Ethnicity of Students

Teachers were asked what percentage of the students in their school belonged to various ethnic groups. As can be seen in Table 4.8, the majority of the students in most public and private schools were Caucasian-American (70.2% of the public school teachers and 78.1% of the private school teachers said their schools were more than 50% Caucasian-American). Although some public schools had sizable concentrations of ethnic minorities, most enrolled 10% or fewer students from a single minority group. Compared to public schools, private schools had fewer of all types of ethnic minorities, except Asian-Americans.

Table 4.8

Ethnicity of Students in Public and Private Schools

Percent	Ethnicity of Students: African-American		Native-American		Hispanic-American		Asian-American		Caucasian-American		Other	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
0	27.5	41.6	59.3	72.1	33.1	46.7	41.7	40.2	5.4	5.1	77.8	76.4
1 - 10	39.4	39.0	22.4	13.1	38.0	35.0	41.4	44.7	4.1	3.4	7.1	10.0
11 - 25	9.9	4.6	2.0	0.9	7.5	4.8	5.0	4.8	4.0	1.7	0.6	1.4
26 - 50	9.1	4.6	2.0	0.9	7.5	4.8	5.0	4.8	4.0	1.7	0.6	1.4
> 50	7.1	5.4	1.8	2.3	6.1	1.1	0.6	1.1	70.2	78.1	0.2	0.3
Don't Know	4.1	3.1	10.5	7.7	6.7	4.3	7.2	3.4	3.5	2.6	11.0	7.7
Missing	2.9	3.7	2.9	3.7	2.9	3.7	2.9	3.7	3.0	3.7	2.9	4.0

Note: Table entries indicate percent of teachers in each category. For example, 27.5% of the public schools had no African-American students, as reported by teachers, and 39.4% of the public schools had between 1% and 10% African-American students.

Table 4.9 provides student ethnicity data for special population schools. Because these samples were drawn to ensure that over 25% of the students represented the target ethnic group, we were somewhat surprised to have teachers tell us that some schools did not have this percentage of ethnic minorities. In fact, around 20% of the teachers in the African-American, Native-American and Asian-American samples said there were fewer than 25% target minorities in their schools, as did 14% of the teachers in the Hispanic-American samples. We believe that the Market Data Retrieval data used to select schools is accurate and that the teacher reports provide only rough estimates of the ethnicity of students at the school level. Consequently, the data in Table 4.9 can be interpreted as generally validating the fact that target ethnic minorities are present in sizable numbers in the various samples. The data also suggest that non-target minorities are present in the schools, although to a lesser extent than the target minorities.

Table 4.9

Ethnicity of Students in Special Population Schools

Percent Minority	Special Population Sample																							
	African-American						Native-American						Hispanic-American						Asian-American					
	Af	NA	HA	As	CA	O	Af	NA	HA	As	CA	O	Af	NA	HA	As	CA	O	Af	NA	HA	As	CA	O
0	3.3	70.2	40.1	52.5	12.0	75.6	57.2	2.5	55.4	79.3	17.8	89.5	23.0	57.5	0.4	38.9	14.7	68.3	23.8	52.8	25.9	3.5	7.0	60.1
1 - 10	7.9	11.6	34.7	31.8	13.2	7.9	28.3	5.8	22.8	15.6	23.6	5.8	44.8	23.4	6.7	34.9	19.9	13.9	49.3	24.5	38.8	7.7	22.0	16.0
11 - 25	11.2	2.1	5.4	1.7	9.1	1.2	4.3	11.2	4.3	1.1	10.1	0.4	10.7	2.0	7.1	6.0	14.3	1.6	7.3	1.0	10.1	11.2	26.6	4.4
26 - 50	31.4	0.4	3.3	1.2	27.3	0.0	4.7	27.2	12.3	0.7	25.0	0.4	0.6	1.2	25.4	5.6	27.0	0.4	9.4	1.0	8.0	22.4	24.1	2.8
> 50	40.1	1.7	5.0	9.5	31.4	0.0	2.5	51.1	2.2	0.0	21.0	0.4	4.8	0.8	50.8	1.2	13.9	0.0	0.7	2.1	1.4	46.2	9.4	2.1
Don't Know	2.9	10.7	8.3	3.3	3.7	12.0	2.2	1.4	2.2	2.5	1.8	2.9	6.0	10.3	4.8	8.7	5.6	11.1	5.9	14.7	12.2	5.6	7.3	11.5

Note: Ethnicity of students as follows:

Af African-American
NA Native-American
HA Hispanic-American
As Asian-American
CA Caucasian-American
O Other

Formal Definition of Giftedness and Earliest Grade Taught

This research also investigated whether a formal definition of giftedness had been adopted by the districts represented in the samples and the lowest grade level for which there was a formal gifted program in those districts. As can be seen in Table 4.10, a large majority of the public school and special population teachers said their district had adopted a formal definition of giftedness. However, only 21.4% of the private school teachers said this was the case. Surprisingly, a sizable percentage of respondents in each sample said they didn't know whether a formal definition of giftedness had been adopted. Regarding the lowest grade level with a gifted program, less than 2% of those responding to this item said gifted education began at grade 6 or above (see Table 4.11). Over 10% of all special population and public school teachers said programs began at the preschool or kindergarten level. However, programs typically began between grades 1 and 4.

Table 4.10

Districts With Formal Definition of Giftedness

			Special Populations			
Formal Definition	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Yes	79.1	21.4	78.9	66.7	81.0	65.0
No	9.2	45.9	3.3	17.8	6.0	10.1
Don't Know	10.7	28.8	17.4	15.2	12.7	24.5
No Response	1.0	4.0	0.4	0.4	0.4	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Table entries indicate percent of districts in that category.

Table 4.11

Lowest Grade Level at Which District Offers a Formal Gifted Program

Grade Level	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Preschool and Kindergarten	13.4	5.7	16.5	19.2	19.0	10.8
1	20.8	6.0	21.5	19.9	27.0	18.5
2	15.7	5.4	19.8	14.5	11.5	22.7
3	22.1	3.7	17.8	13.8	21.4	24.1
4	11.0	3.4	8.3	7.6	8.7	9.1
5	1.4	0.6	0.0	0.7	0.0	0.3
6 or Above	1.1	1.8	1.2	1.8	0.8	0.0
No Response	14.5	74.1	14.9	22.5	11.5	14.3
Total	100.0	100.7	100.0	100.0	99.9	99.8

Note: Table entries indicate percent in category. Some totals do not equal 100.0% due to rounding errors.

District Identification Measures

Achievement tests were the most frequently used method for formally identifying gifted students (see Table 4.12). In fact, 70% or more of the teachers in the public school and special population samples said their district used achievement tests for this purpose. However, only 47% of the private school teachers said achievement tests were used and 30% said they did not know the identification procedures that were followed.

IQ tests and teacher nominations were the next most frequently cited measures for the public school and African-American samples. These same measures were also cited by teachers in the Native-American, Hispanic-American and Asian-American samples, but the order of citation was reversed. Also among the most frequently cited identification measures across samples were teacher rating scales, school grades and parent nominations. Mentioned less frequently were creativity tests, student products/portfolios, student interviews, student self-nominations and peer nominations.

Table 4.12

Methods of Formally Identifying Gifted Students

Identification Method	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
			Special Populations			
Achievement Tests	79.4	47.0	78.9	69.9	78.6	85.0
IQ Tests	71.9	39.9	70.7	52.2	56.0	57.7
Teacher Nomination	70.2	27.4	59.9	55.8	74.2	76.9
Teacher Rating Scale	57.4	24.2	51.7	36.6	55.6	71.3
School Grades	44.8	33.3	56.2	36.2	46.8	52.8
Parent Nomination	43.5	9.1	33.5	33.3	45.2	48.6
Creativity Tests	20.4	4.8	20.7	25.4	28.2	21.7
Student Products/ Portfolios	17.4	11.1	18.2	9.4	25.4	27.6
Student Interview	8.9	4.3	10.3	6.2	13.5	21.0
Student Self-Nomination	8.7	2.0	6.2	8.0	6.3	13.3
Peer Nomination	4.0	0.9	4.1	2.5	3.2	1.4
Other Criteria	3.3	3.7	1.7	6.5	4.8	4.2
Don't Know	5.4	27.9	8.3	12.3	7.5	7.7

Note: Table entries indicate percent of respondents who indicated that their district used these measures. Respondents were asked to check as many options as apply. Thus, totals do not equal 100.0%.

Acceleration of Students

Around 40% of the teachers in all samples indicated that their district had a policy regarding the acceleration of the regular curriculum for high ability students (see Table 4.13). For those districts with an acceleration policy, over 70% of the respondents in all samples except private schools said that they were not permitted to accelerate students into the next level or academic grade but they were encouraged to provide higher level or enriched content material in their classrooms (see Table 4.14). Interestingly, 48% of the private school teachers said they were encouraged to move students up a grade or level.

Table 4.13

Districts With Policy on Acceleration of Students

Policy	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Yes	46.9	36.5	42.1	39.1	46.4	36.4
No	29.7	29.1	24.4	30.1	23.8	21.7
Don't Know	15.1	23.9	20.7	22.1	22.2	38.1
No Response	8.3	10.5	7.9	8.7	7.5	3.8
Total	100.0	100.0	100.1	100.0	99.9	100.0

Note: Table entries indicate percent of districts in category. Some totals do not equal 100.0% due to rounding errors.

Table 4.14

Nature of District Policy on Acceleration of Students

Policy	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Teachers encouraged to accelerate to next level or grade	26.0	47.7	28.1	22.2	20.5	20.2
No acceleration to next level or grade, but teachers encouraged to provide higher level or enriched content	74.5	56.3	78.1	74.1	76.1	74.0
Neither of above allowed	0.9	1.6	0.0	0.9	0.0	0.0
Other	6.9	7.0	5.3	6.5	9.4	8.7

Note: Table entries indicate percent of districts in category. Teachers could select more than one category. Thus, totals do not equal 100.0%.

Availability of Gifted Staff

Teachers were asked whether their district employed a coordinator of programs for the gifted and whether there was a full-time or part-time teacher of the gifted in the school building in which they taught. As reported in Table 4.15, 65% or more of the public school and special population teachers said their district employed a gifted coordinator as compared with only 19% of the private school teachers. We did not ask whether the coordinator was employed full-time in this position.

Regarding teachers of the gifted, 62% of the teachers in the Asian-American sample reported there was a full-time teacher of the gifted in their building, and an additional 22% said they had a part-time teacher. Public schools and schools with high concentrations of African-American, Native-American and Hispanic American students were less well served in that no more than 31% of them had a full-time teacher and no more than 39% had a part-time teacher. Only about 13% of the private schools employed either a full-time or part-time gifted education teacher.

Table 4.15

Availability of a Gifted Coordinator or Teacher

			Special Populations			
Type	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Coordinator of Gifted in District	73.6	19.1	77.7	64.5	78.6	78.7
Full-time Teacher of Gifted in School Building	21.9	1.4	31.0	18.8	30.2	62.2
Part-time Teacher of Gifted in School Building	36.4	11.7	30.2	39.1	28.6	22.0
No Response	7.7	14.3	12.0	8.3	6.8	7.5

Note: Table entries indicate percent of teachers choosing each category.

Special Programs

Few private schools provided in-school pullout programs (15%) or transported gifted students to a different school or site (9%) to participate in a gifted program (see Table 4.16). However, 72% of the teachers in schools with high concentrations of Asian-American students reported having pull-out programs for the gifted, as did 55% of the public school teachers, 59% of the teachers in the Native-American sample, 53% of the teachers in the African-American sample, and 45% of the teachers in the Hispanic-

American sample. As might be expected, appreciably fewer teachers reported that they made provisions for transporting students to gifted programs at a different school or site. However, over 23% of the teachers in three of the samples (public school, African-American, and Hispanic-American) reported that such provisions were made.

Table 4.16

Out-of-Class Provisions for Gifted Students

			Special Populations			
Program Type	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
In-school Pullout	55.3	14.8	52.9	59.4	44.8	71.7
Transported to Another School or Site	27.0	8.8	29.3	9.8	23.4	5.9

Classroom Issues

Teachers also provided information about their classrooms, including whether they taught in an intact or departmentalized arrangement, the number of students in their class, the number of students that had special needs of various types, the ethnic composition of the class, the number of gifted students by gender and ethnicity, the procedures they used to identify gifted students, and the number of gifted students in class that had not been formally identified as such by gender, ethnicity or handicapping condition. Each of these issues will be described in turn.

Intact vs. Departmentalized Classes

Teachers were asked whether they taught in an intact or self-contained class (i.e., had the same students all day) or in a departmentalized arrangement (i.e., taught one or more subjects to different classes). The large majority of the teachers in all six samples taught third or fourth grade students in an intact or self-contained classroom (see Table 4.17). Fewer than 20% of the teachers in all samples except the Asian-American sample reported teaching in a departmentalized arrangement. Slightly more than 27 percent of the teachers in the Asian-American sample taught in a departmentalized arrangement.

Table 4.17

Percent of Teachers Teaching Various Types of Classes

Type of Class	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Intact or Self-Contained	79.6	82.6	79.8	86.6	87.7	72.7
Departmentalized Arrangement	19.2	14.5	18.2	10.1	11.1	27.3
Other	0.4	3.7	1.2	0.0	0.4	1.4
Both Intact and Departmentalized	0.4	0.9	1.7	1.1	0.0	0.0

Note: Some totals do not equal 100.0% due to rounding errors.

Class Size

The average class size ranged from 21.5 students for private schools to 28.0 for schools with high concentrations of Asian-American students (see Table 4.18). Interestingly, the average class size for Native-American schools more closely paralleled the average class size of private schools than any of the other samples. Regarding gender, there were only small differences in the average numbers of boys and girls in a class, with slightly more boys in all but the private school sample.

Table 4.18

Average Class Size by Total Enrollment and Gender

Class Size	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Total Enrollment						
Mean	24.1	21.5	24.9	21.8	24.9	28.0
Standard Deviation	6.0	7.5	6.3	5.8	6.5	9.5
Boys						
Mean	12.4	10.6	12.7	11.1	12.8	14.4
Standard Deviation	3.7	4.4	4.1	3.5	3.8	5.7
Girls						
Mean	11.8	10.9	12.3	10.7	12.1	13.7
Standard Deviation	3.6	4.8	3.8	3.8	4.1	4.8

Special Needs Students

Table 4.19 provides information on the average number of special needs students in the sample classrooms. For purposes of this research, special needs students included the limited English proficient, visually impaired, hearing impaired, physically handicapped and students with other health impairments. The most prevalent type of special needs students across samples was limited English proficient students. On average, there were 6.5 limited English proficient students in the Hispanic-American sample classrooms and 4.3 limited English proficient students in Native-American and Asian-American sample classrooms. The Public, Private and African-American sample classrooms contained slightly more than 2 limited English proficient students, and there were between 3.4 and 4.2 total special needs students per class. Teachers in schools with high concentrations of Hispanic-American students reported an overall average of 7.7 special needs students per class while teachers in the Native-American and Asian-American samples reported 6.2 and 5.3 special needs students per class, respectively.

Table 4.19

Average Number of Special Needs Students in Sample Classrooms

			Special Populations			
Special Needs	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Limited English Proficiency	2.4	2.3	2.1	4.3	6.5	4.3
Visually Impaired	0.7	0.7	0.8	1.4	0.7	0.3
Hearing Impaired	0.2	0.1	0.2	0.3	0.2	0.4
Physically Handicapped	0.7	0.1	0.1	0.1	0.1	0.1
Other Health Impairment	0.2	0.2	0.2	0.1	0.2	0.2
Total	4.2	3.4	3.4	6.2	7.7	5.3

Ethnicity of Students by Classroom

Although average class sizes differed, public and private classrooms typically enrolled about 17 Caucasian-American students (see Table 4.20). On average, public schools had 2.9 African-American students, 2.2 Hispanic-American students and less than one student from any other ethnic group. Private schools had an average of 1.6 African-American students per classroom and no more than 1 student from any other ethnic group.

As might be expected given our sampling procedures, classrooms in the African-American sample included an average of 12 students from this ethnic group. Also, with the exception of Caucasian-Americans, they included no more than about 2 students from any

other ethnic group. A similar distribution of students existed in the Native-American classrooms (11.9 Native-Americans per class), the Hispanic-American classrooms (13.3 Hispanic-Americans per class), and the Asian-American classrooms (15.1 Asian-Americans per class). These data suggest that the sampling strategy did yield classrooms with high concentrations of target ethnic minorities, as planned.

Table 4.20

Average Number of Students in Sample Classrooms by Ethnicity

			Special Populations			
Ethnic Group	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
African-American	2.9	1.6	12.0	1.1	2.0	2.1
Asian-American	0.7	1.0	0.4	0.2	1.6	15.1
Hispanic-American	2.2	1.0	2.1	1.6	13.3	1.8
Native-American	0.6	0.5	0.4	11.9	0.4	0.4
Caucasian-American	17.0	16.6	9.7	6.3	6.3	5.8
Other Ethnicity	0.2	0.3	0.2	0.1	0.4	1.4
Total	23.6	21.0	24.8	21.2	24.0	26.6

Note: The total enrollment reported here differs slightly from those reported in Table 4.18. Data in the two tables are based on responses to different questionnaire items.

Number of Gifted Students by Class

Teachers were asked how many formally identified gifted students were in their classrooms. As can be seen in Table 4.21, 62% of the private school teachers reported no formally identified gifted students. This result follows from the fact that only 21% of the teachers in this sample reported that a formal definition of giftedness had been adopted by their school (see Table 4.10). Regarding the other samples, 37% of the public school teachers said there were no gifted students in their class, as did 38% of the African-American sample teachers, 46% of the Native-American teachers and 39% of the Hispanic-American teachers. Only 23% of the Asian-American sample reported this to be the case.

Most of the classrooms with gifted students had between 1 and 4 gifted students with 1-2 students being most typical for all samples except the Asian-American sample. The Asian-American group had a roughly equivalent percentage of classes with 1-2 and 3-4 students; they also had more formally identified gifted students per class than any of the other samples. In fact, about 45% of the teachers in the Asian-American sample reported having 3 or more gifted students in their class. It should also be noted that about 32% of the teachers in the African-American sample reported having 3 or more gifted students in their classrooms.

Table 4.21

Number of Formally Identified Gifted Students in Sample Classrooms

Number	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
0	37.3	62.4	37.6	46.0	38.9	23.4
1-2	26.5	9.4	23.2	26.4	27.8	26.2
3-4	15.0	4.6	14.1	1.4	10.3	24.5
5-6	6.2	1.2	7.4	5.0	5.6	8.0
7 or More	8.7	3.7	10.7	0.7	9.1	12.5
No response	7.2	18.8	7.0	8.3	8.3	5.2
Total	100.9	100.1	100.0	99.8	100.0	99.8

Note: Table entries indicate percent of respondents in category. Some totals do not equal 100.0% due to rounding errors.

Teacher Identification Procedures

In addition to asking teachers what measures or checklists the district used to formally identify gifted students, we also inquired as to the identification measures teachers use in their classrooms informally to assess gifted students. As reported in Table 4.22, achievement tests were used most frequently. Also used frequently, but to varying degrees across the six samples, were school grades, teacher nominations, IQ tests, teacher rating scales, student products or portfolios, and creativity tests. Less frequently used were parent nominations, student interviews, student self-nomination, and peer nominations.

Compared with the formal identification procedures used by districts, teachers, especially special population teachers, placed greater emphasis on school grades, student products/portfolios, and creativity tests, and less emphasis on parent nominations. Teachers in all special populations except Native-Americans also placed less emphasis on IQ tests than their districts did.

Table 4.22

Teachers' Methods of Informally Identifying Gifted Students

Identification Method	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Achievement Tests	77.2	74.4	72.3	75.0	76.6	84.6
IQ Tests	63.4	63.8	57.4	56.2	43.3	54.2
Teacher Nomination	69.5	53.0	60.7	63.0	64.7	75.9
Teacher Rating Scale	58.7	50.1	56.6	48.2	59.1	73.8
School Grades	61.3	65.8	67.8	57.6	56.0	63.3
Parent Nomination	32.5	17.4	19.8	28.7	36.1	36.4
Creativity Tests	36.8	41.6	37.6	38.0	42.1	36.4
Student Products/ Portfolios	43.6	48.4	38.8	40.6	50.0	51.0
Student Interview	19.4	24.5	16.1	19.9	19.0	23.8
Student Self-Nomination	9.6	6.8	5.8	13.0	7.9	13.3
Peer Nomination	4.4	4.8	3.7	2.9	3.6	5.2
Other Criteria	3.4	1.4	2.1	2.5	3.6	2.1
Don't Know	1.4	3.4	2.9	1.8	1.6	3.8

Note: Table entries indicate percent of teachers in category. Totals do not equal 100.0% because teachers could choose as many methods as applicable.

Informally Identified Gifted Students

Given differences between district policies for identifying gifted students and teacher identification procedures, it was not surprising to learn that sizable percentages of respondents said they had gifted students in their class who had not been formally identified (see Table 4.23). About 60% of the private school teachers said they had gifted students who had not been formally identified, while over 45% of the teachers in all samples except Asian-American, who had higher percentages of identified gifted students than the other samples, said this was the case.

Table 4.23

Percent of Teachers With Gifted Students Who Are Not Formally Identified

Category	Public Schools n = 2,049	Private Schools n = 351	Special Populations: African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Teachers with Gifted Students not Formally Identified	48.5	59.8	45.9	49.3	49.6	37.8
Teachers with Neither Formally nor Informally Identified Gifted Students	45.1	29.6	50.4	43.1	44.4	46.3
Don't Know	3.8	3.7	0.8	6.2	4.4	4.9
No Response	2.6	6.8	2.9	1.4	1.6	1.0
Total	100.0	99.9	100.0	100.0	100.0	100.0

Note: Totals do not equal 100.0% due to rounding errors.

Special Needs Gifted

Teachers were also asked whether they had special needs students in their classrooms who were either formally identified as gifted or gifted, but not formally identified. Table 4.24 provides data on the percentage of teachers with special needs students formally identified as gifted; Table 4.25 reports the percentage of teachers with special needs students who are gifted, but have not been formally identified. In both cases there were more limited English proficient, gifted students than any of the other special needs categories, perhaps because there were more limited English proficient students within the classes. Interestingly, however, more teachers in all of the samples said they had limited English proficient gifted students who were not formally identified than teachers who had formally identified limited English proficient gifted students.

Table 4.24

Percent of Teachers With Special Needs Students Formally Identified as Gifted

Special Needs	Special Populations					
	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Limited English Proficiency	8.1	3.8	8.6	12.7	13.5	10.8
Visually Impaired	2.9	1.7	2.9	2.9	3.2	1.4
Hearing Impaired	0.6	0.9	1.2	6.7	1.6	2.4
Physically Handicapped	0.1	0.0	0.4	0.0	0.0	0.7
Other Health Impairment	0.6	0.9	0.4	0.7	2.4	0.3
Total	12.3	7.3	13.5	23.0	20.7	15.6

Table 4.25

Percent of Teachers With Gifted Special Needs Students Not Formally Identified

Special Needs	Special Populations					
	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
Limited English Proficiency	11.7	15.9	10.8	23.3	24.2	13.5
Visually Impaired	1.9	5.5	1.7	4.9	2.0	0.3
Hearing Impaired	0.5	2.3	0.8	1.1	0.8	0.7
Physically Handicapped	0.2	0.6	0.4	0.4	0.0	0.0
Other Health Impairment	0.5	1.7	0.4	0.4	1.6	0.3
Total	14.8	26.0	14.1	30.1	28.6	14.8

Tables 4.26 and 4.27 provide breakdowns of the percentage of teachers with formally identified gifted students and teachers with students who were gifted but not formally identified by ethnic group. Paralleling class enrollments, more teachers had formally identified Caucasian-American students than any other ethnic group for 5 of the 6 samples (see Table 4.26). Larger percentages of teachers in the special population samples reported having formally identified gifted for the target minority than for any of the other minority groups, as enrollment would predict. Teachers in Asian-American schools, where Asian-American students outnumbered Caucasian-American students, reported a higher percentage of gifted Asian-American than Caucasian-American students. Smaller percentages of teachers reported formally identified gifted students in non-target minority groups.

Table 4.27 suggests that for the public and private samples, there are more classrooms with unidentified Caucasian-American gifted students than any other ethnic group. However, in special population schools where ethnic minorities exist in greater numbers, there are a large number of classrooms with unidentified gifted minority students. In fact, the percentage of classrooms with unidentified target minority students exceeds the percentage of classrooms with unidentified Caucasian students for all special population samples except African-Americans. This difference is particularly large for Hispanic-Americans.

Table 4.26

Teachers With Formally Identified Students by Ethnic Group

			Special Populations			
Ethnic Group	Public Schools n = 2,049	Private Schools n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
African-American	6.7	2.4	23.9	2.6	7.5	9.3
Asian-American	5.3	0.9	4.1	0.7	8.4	52.4
Hispanic-American	4.7	0.3	7.8	2.2	24.6	5.8
Native-American	1.6	0.6	2.0	21.8	2.0	3.0
Caucasian-American	46.7	14.3	39.6	30.5	32.5	38.5
Other Ethnicity	1.1	0.3	0.8	1.8	1.6	4.9

Note: The numbers represent the percent of teachers who had formally identified gifted students in the various ethnic groups.

Table 4.27

Teachers With Students in Various Ethnic Groups Perceived to be Gifted but Not Formally Identified

	Sample					
Ethnic Group	Public School n = 2,049	Private School n = 351	African-American n = 242	Native-American n = 276	Hispanic-American n = 252	Asian-American n = 286
African-American	6.9	8.0	21.9	4.4	5.6	6.3
Asian-American	5.3	7.1	2.5	0.4	8.4	24.8
Hispanic-American	5.5	4.5	5.7	7.7	28.9	5.2
Native-American	1.7	1.7	2.5	26.1	2.4	0.0
Caucasian-American	36.0	43.0	24.0	24.6	17.0	19.2
Other Ethnicity	1.0	1.4	1.2	0.7	1.2	2.8

Note: The numbers represent the percent of teachers who had students they perceived to be gifted but were not formally identified.

CHAPTER 5: Classroom Practices

This chapter presents the results of the classroom practices portion of the survey. We begin by describing teacher responses to the 39 questionnaire items and their scores on the six factors empirically derived from them. We then present the results of significance tests comparing factor scores for average and gifted students for each of the six samples (i.e., Public School, Private School, African-American, Hispanic-American, Asian-American and Native American). Analyses for the public school sample include comparisons for regions of the country and type of community. Private school and ethnic-minority samples do not support analyses by region and community type.

Descriptive Results for Classroom Practices Items

Public School Sample

Table 5.1 summarizes the responses of public school teachers with formally identified gifted students in their classrooms to the 39 classroom practices items. Included for each item are means and standard deviations for gifted and average students, mean differences found by dividing the difference between gifted and average scores by the sample size, and effect sizes found using procedures described by Cohen (1988).

Item means for gifted students ranged from .56 for Item 30, "Send students to a higher grade level for specific subject area instruction," to 4.64 for Item 38, "Encourage student participation in discussions." Given the response scale, these scores imply that sending gifted students to a higher grade level for instruction occurred on average appreciably less than once a month while encouraging gifted students to participate in discussions occurred more than once a day. Means for average students on these same items indicate that moving to a higher grade is also a rare event for average students (X=.33) and that teachers encourage average students to participate in discussions about as frequently (X=4.62) as they do gifted students.

Regarding within-class differences between gifted and average students, an inspection of the next to last column of Table 5.1 reveals that for a number of items, such as Item 16, "Modify the instructional format for students who learn better using an alternative approach," the mean difference was at or near zero. For other items, such as Item 14, "Repeat instruction on the coverage of more difficult concepts for some students," the mean difference was quite large (X=-0.80). In general, though, most differences were quite small.

One way to judge the magnitude of these differences is to calculate what is known as the effect size (ES). This index is found by dividing the mean difference for each item by the pooled within group standard deviation for that item. Cohen (1988) has proposed that effect sizes must be .2 to be considered small, .5 to be considered medium, and .8 to be considered large. Using these criteria, none of the differences is large, 2 are medium (Items 3 and 14), and 8 are small (Items 2, 5, 6, 11, 13, 15, 27, 28). The effect sizes for the remaining 29 items were less than .2, and thus the differences on which they are based are negligible. These preliminary analyses suggest that gifted students are receiving little differentiated instruction in public school classrooms across the country.[1]

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[1] Appendix E contains difference scores for the public school teachers who did not have formally identified gifted students but did have students they perceived to be gifted. The results are very similar to those presented in Table 5.1.

Table 5.1

Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - Public School Sample[1]

	Classroom Practices Item	Gifted		Average		Mean[2] Difference	Effect[3] Size
		$\bar{X}$	SD	$\bar{X}$	SD		
1	Use basic skills worksheet	3.01	1.15	3.17	1.06	-0.16	0.145
2	Use enrichment worksheet	2.87	1.09	2.43	1.06	0.44	0.409
3	Assign advanced level reading	2.83	1.32	2.03	1.25	0.80	0.622
4	Use self-instructional kit	1.32	1.59	1.17	1.47	0.15	0.098
5	Assign reports	1.80	0.95	1.54	0.83	0.26	0.291
6	Assign projects	1.90	1.00	1.61	0.90	0.29	0.305
7	Assign book reports	1.58	0.99	1.45	0.93	0.13	0.135
8	Use puzzles or word searches	2.29	1.05	2.22	0.99	0.07	0.069
9	Creative writing; teacher's topic	2.53	1.06	2.42	1.04	0.11	0.105
10	Creative writing; student's topic	2.19	1.21	2.04	1.19	0.15	0.125
11	Time for self-selected interests	2.67	1.30	2.40	1.28	0.27	0.209
12	Pretests to determine mastery	1.73	1.11	1.64	1.08	0.09	0.082
13	Eliminate material students master	2.51	1.39	2.22	1.37	0.29	0.210
14	Repeat difficult concepts	2.72	1.31	3.52	0.99	-0.80	0.689
15	Different work for students mastering	2.69	1.31	2.26	1.29	0.43	0.331
16	Alternative instructional formats	2.99	1.28	2.99	1.23	0.00	0.000
17	Various locations around classroom	3.34	1.34	3.23	1.38	0.11	0.081
18	Work in location other than class	2.25	1.44	1.98	1.41	0.27	0.189
19	Different homework based on ability	2.05	1.52	1.90	1.49	0.15	0.100
20	Use learning centers for basic skills	2.17	1.61	2.18	1.59	-0.01	0.006
21	Use enrichment centers	2.30	1.59	2.12	1.54	0.18	0.115
22	Thinking skills in regular curriculum	3.67	1.07	3.62	1.09	0.05	0.046
23	Teach unit on thinking skills	2.26	1.43	2.18	1.39	0.08	0.057
24	Competitive thinking skills program	0.92	1.30	0.69	1.14	0.23	0.188
25	Contracts for independent study	1.39	1.48	1.32	1.45	0.07	0.048
26	Time for independent study projects	2.37	1.44	2.19	1.43	0.18	0.125
27	Work for higher grade textbook	1.64	1.76	1.15	1.51	0.49	0.300
28	More advanced curriculum unit	1.72	1.41	1.43	1.32	0.29	0.212
29	Group by ability across classrooms	1.85	1.90	1.79	1.90	0.06	0.032
30	Higher grade for specific instruction	0.56	1.32	0.33	1.03	0.23	0.196
31	Establish interest groups	1.59	1.32	1.44	1.26	0.15	0.116
32	Student's opinion in allocating time	2.20	1.45	2.11	1.43	0.09	0.063
33	Programmed materials	2.30	1.51	2.13	1.47	0.17	0.114
34	Encourage long-range projects	1.99	1.33	1.79	1.28	0.20	0.153
35	Questions to encourage reasoning	3.94	0.98	3.86	1.01	0.08	0.080
36	Ask open-ended questions	4.07	0.94	4.02	0.97	0.05	0.052
37	Encourage higher-level questions	4.06	0.97	3.97	1.02	0.09	0.090
38	Encourage discussion	4.64	0.59	4.62	0.60	0.02	0.034
39	Use computers	2.99	1.33	2.91	1.33	0.08	0.060

[1] Based on classrooms with formally identified gifted students.

[2] The difference score is calculated by subtracting the respondent's average score from their gifted score. Means are calculated from these difference scores. Difference scores are subject to rounding errors.

[3] The Effect Size (ES) is calculated by dividing the mean difference by the square root of the pooled within-group variance (Cohen, 1988).

Private School Sample

Because only 21% of the private school teachers taught in schools that had adopted a formal definition of giftedness, item level means and standard deviations are presented for private school teachers who reported having students in their classrooms they perceived to be gifted but not formally identified as such. Using Cohen's (1988) criteria, only one of the differences reported in Table 5.2 is large (Item 3). Two of the effect sizes exceed .5 (Items 5 and 14) and therefore represent medium-size differences, and 16 of the effect sizes are small (Items 1, 2, 4, 6, 7, 9, 10, 11, 13, 15, 18, 26, 27, 28, 30 and 31). The effect size for the remaining 20 items was less than .2. These results, as well as those reported in Appendix E for the small number of private school classrooms with formally identified gifted students, suggest that little differentiated instruction is being provided to gifted students in private schools.

Table 5.2

Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - Private School Sample[1]

	Classroom Practices Item	Gifted		Average		Mean[2] Difference	Effect[3] Size
		$\bar{X}$	SD	$\bar{X}$	SD		
1	Use basic skills worksheet	3.08	1.12	3.31	1.07	-0.23	0.210
2	Use enrichment worksheet	3.00	1.07	2.52	1.15	0.48	0.432
3	Assign advanced level reading	3.09	1.28	1.84	1.22	1.25	1.000
4	Use self-instructional kit	1.79	1.69	1.30	1.46	0.49	0.310
5	Assign reports	1.83	0.84	1.40	0.65	0.43	0.573
6	Assign projects	2.06	0.92	1.66	0.84	0.40	0.247
7	Assign book reports	1.58	0.88	1.40	0.65	0.18	0.206
8	Use puzzles or word searches	2.29	0.87	2.27	0.76	0.02	0.024
9	Creative writing; teacher's topic	2.29	0.92	2.10	0.91	0.19	0.208
10	Creative writing; student's topic	2.06	1.11	1.83	1.11	0.23	0.207
11	Time for self-selected interests	2.92	1.31	2.56	1.35	0.36	0.271
12	Pretests to determine mastery	1.44	1.11	1.31	1.08	0.13	0.120
13	Eliminate material students master	2.55	1.46	2.02	1.58	0.53	0.348
14	Repeat difficult concepts	2.72	1.25	3.46	1.07	-0.74	0.636
15	Different work for students mastering	2.62	1.32	2.10	1.28	0.52	0.400
16	Alternative instructional formats	2.71	1.34	2.71	1.32	0.00	0.000
17	Various locations around classroom	3.35	1.31	3.10	1.40	0.25	0.184
18	Work in location other than class	2.60	1.29	2.16	1.38	0.44	0.329
19	Different homework based on ability	2.39	1.34	2.12	1.42	0.27	0.196
20	Use learning centers for basic skills	2.62	1.55	2.62	1.55	0.00	0.000
21	Use enrichment centers	2.62	1.52	2.50	1.57	0.12	0.078
22	Thinking skills in regular curriculum	3.49	1.07	3.41	1.06	0.08	0.075
23	Teach unit on thinking skills	1.82	1.41	1.76	1.37	0.06	0.043
24	Competitive thinking skills program	0.77	1.35	0.63	1.25	0.14	0.108
25	Contracts for independent study	1.29	1.47	1.20	1.39	0.09	0.048
26	Time for independent study projects	2.22	1.54	1.90	1.50	0.32	0.211
27	Work for higher grade textbook	2.10	1.84	1.34	1.65	0.76	0.435
28	More advanced curriculum unit	1.94	1.51	1.60	1.41	0.34	0.233
29	Group by ability across classrooms	1.90	1.90	1.68	1.82	0.23	0.124
30	Higher grade for specific instruction	1.06	1.83	0.55	1.42	0.51	0.311
31	Establish interest groups	1.44	1.42	1.12	1.12	0.32	0.250
32	Student's opinion in allocating time	2.00	1.29	1.88	1.25	0.12	0.009
33	Programmed materials	2.45	1.69	2.22	1.62	0.23	0.139
34	Encourage long-range projects	2.00	1.33	1.78	1.21	0.22	0.173
35	Questions to encourage reasoning	3.79	0.98	3.67	0.97	0.12	0.124
36	Ask open-ended questions	4.10	0.79	4.00	0.86	0.10	0.121
37	Encourage higher-level questions	3.92	1.00	3.73	1.08	0.19	0.183
38	Encourage discussion	4.64	0.56	4.56	0.67	0.08	0.130
39	Use computers	2.90	1.33	2.82	1.33	0.08	0.059

[1] Based on classrooms with students whom the teacher perceived to be gifted but without formally identified gifted students.

[2] The difference score is calculated by subtracting the respondent's average score from their gifted score. Means are calculated from these difference scores. Difference scores are subject to rounding errors.

[3] The Effect Size (ES) is calculated by dividing the mean difference by the square root of the pooled within-group variance (Cohen, 1988).

Special Populations

Item level means and standard deviations for schools with high concentrations of African-American, Hispanic-American, Asian-American and Native American students are presented in Table 5.3 through 5.6, respectively. Although some sample differences exist, the results are remarkably similar across special population classrooms. These results (including those in Appendix E for classrooms with non-identified gifted students) are also very similar to those presented above for public and private schools. This comparability can be seen most readily in Table 5.7 which lists items for which the effects sizes derived from the differences between gifted and average means meet or exceed cutoffs set by Cohen (1988). For all six samples, the large majority of the differences produce effect sizes below the .2 cutoff that Cohen considers small and labeled "negligible". Further, Items 2, 3, 6, 15 and 27 yield effect sizes that are greater than .20 for all samples, Items 14 and 28 yield effect sizes that are greater than .20 for 5 samples, Items 5 and 11 yield effect sizes that are greater than .20 for 4 samples, and Items 18 and 30 yield effect sizes greater than .20 for 3 samples. And, across the six samples, only 18 items produce differences which Cohen would consider even small. These results would suggest that all gifted students, including gifted minority students, are receiving little differentiated instruction in regular classrooms across the country.

Table 5.3

Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - African-American Sample[1]

	Classroom Practices Item	Gifted		Average		Mean[2] Difference	Effect[3] Size
		$\bar{X}$	SD	$\bar{X}$	SD		
1	Use basic skills worksheet	3.04	1.21	3.17	1.21	-0.12	0.099
2	Use enrichment worksheet	2.89	1.12	2.51	1.11	0.38	0.341
3	Assign advanced level reading	2.93	1.37	2.11	1.25	0.82	0.623
4	Use self-instructional kit	1.52	1.59	1.35	1.43	0.17	0.112
5	Assign reports	1.93	0.87	1.71	0.83	0.22	0.259
6	Assign projects	1.83	0.91	1.57	0.86	0.26	0.294
7	Assign book reports	1.52	0.88	1.41	0.84	0.11	0.128
8	Use puzzles or word searches	2.33	1.02	2.18	1.05	0.15	0.145
9	Creative writing; teacher's topic	2.48	1.05	2.34	1.03	0.14	0.135
10	Creative writing; student's topic	2.14	1.24	1.97	1.20	0.17	0.139
11	Time for self-selected interests	2.67	1.33	2.43	1.34	0.24	0.180
12	Pretests to determine mastery	1.82	1.23	1.75	1.18	0.07	0.058
13	Eliminate material students master	2.44	1.47	2.11	1.48	0.33	0.224
14	Repeat difficult concepts	3.03	1.26	3.58	0.99	-0.55	0.485
15	Different work for students mastering	2.63	1.32	2.28	1.28	0.35	0.269
16	Alternative instructional formats	2.91	1.42	2.83	1.36	0.08	0.058
17	Various locations around classroom	3.10	1.37	2.98	1.38	0.12	0.087
18	Work in location other than class	2.14	1.35	1.89	1.29	0.25	0.189
19	Different homework based on ability	2.01	1.50	1.81	1.47	0.20	0.135
20	Use learning centers for basic skills	2.41	1.57	2.38	1.55	0.03	0.019
21	Use enrichment centers	2.54	1.57	2.40	1.59	0.14	0.089
22	Thinking skills in regular curriculum	3.66	1.00	3.58	1.07	0.08	0.077
23	Teach unit on thinking skills	2.18	1.43	2.07	1.43	0.11	0.076
24	Competitive thinking skills program	0.85	1.16	0.71	1.09	0.14	0.124
25	Contracts for independent study	1.16	1.27	1.03	1.21	0.13	0.105
26	Time for independent study projects	2.25	1.42	2.04	1.44	0.21	0.147
27	Work for higher grade textbook	1.98	1.71	1.42	1.50	0.56	0.348
28	More advanced curriculum unit	1.70	1.39	1.48	1.34	0.22	0.161
29	Group by ability across classrooms	1.93	1.86	1.83	1.87	0.10	0.054
30	Higher grade for specific instruction	0.41	1.19	0.26	0.93	0.15	0.140
31	Establish interest groups	1.75	1.36	1.60	1.35	0.15	0.111
32	Student's opinion in allocating time	1.87	1.46	1.77	1.44	0.10	0.069
33	Programmed materials	2.30	1.52	2.22	1.50	0.08	0.053
34	Encourage long-range projects	1.78	1.33	1.63	1.30	0.15	0.114
35	Questions to encourage reasoning	3.89	0.98	3.82	1.04	0.07	0.069
36	Ask open-ended questions	4.04	1.04	3.94	1.10	0.10	0.093
37	Encourage higher-level questions	4.11	0.98	4.01	1.06	0.10	0.098
38	Encourage discussion	4.56	0.59	4.50	0.72	0.06	0.091
39	Use computers	2.78	1.55	2.76	1.53	0.02	0.013

[1] Based on classrooms with formally identified gifted students.

[2] The difference score is calculated by subtracting the respondent's average score from their gifted score. Means are calculated from these difference scores. Difference scores are subject to rounding errors.

[3] The Effect Size (ES) is calculated by dividing the mean difference by the square root of the pooled within-group variance (Cohen, 1988).

Table 5.4

Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - Hispanic-American Sample[1]

	Classroom Practices Item	Gifted		Average		Mean[2] Difference	Effect[3] Size
		$\bar{X}$	SD	$\bar{X}$	SD		
1	Use basic skills worksheet	2.96	1.19	3.14	1.10	-0.18	0.157
2	Use enrichment worksheet	3.02	0.94	2.51	1.06	0.51	0.509
3	Assign advanced level reading	3.04	1.21	2.23	1.23	0.81	0.664
4	Use self-instructional kit	1.19	1.55	1.12	1.43	0.07	0.047
5	Assign reports	1.76	0.90	1.55	0.77	0.21	0.251
6	Assign projects	2.02	1.07	1.73	1.06	0.29	0.272
7	Assign book reports	1.89	0.94	1.80	0.86	0.09	0.010
8	Use puzzles or word searches	2.32	1.14	2.26	1.06	0.06	0.055
9	Creative writing; teacher's topic	2.70	1.17	2.64	1.10	0.04	0.044
10	Creative writing; student's topic	2.41	1.25	2.29	1.24	0.13	0.096
11	Time for self-selected interests	2.74	1.35	2.46	1.31	0.28	0.211
12	Pretests to determine mastery	1.75	1.13	1.71	1.10	0.05	0.034
13	Eliminate material students master	2.66	1.40	2.43	1.46	0.23	0.161
14	Repeat difficult concepts	3.01	1.13	3.60	0.98	-0.59	0.558
15	Different work for students mastering	2.90	1.19	2.55	1.18	0.35	0.295
16	Alternative instructional formats	3.15	1.15	3.20	1.22	-0.05	0.042
17	Various locations around classroom	3.43	1.43	3.24	1.50	0.19	0.130
18	Work in location other than class	2.21	1.41	1.91	1.41	0.30	0.213
19	Different homework based on ability	2.13	1.43	2.04	1.46	0.09	0.062
20	Use learning centers for basic skills	2.28	1.68	2.23	1.65	0.05	0.030
21	Use enrichment centers	2.40	1.61	2.19	1.54	0.21	0.133
22	Thinking skills in regular curriculum	3.79	0.97	3.75	1.02	0.04	0.040
23	Teach unit on thinking skills	2.68	1.40	2.52	1.42	0.16	0.114
24	Competitive thinking skills program	0.91	1.35	0.64	1.18	0.27	0.213
25	Contracts for independent study	1.66	1.58	1.52	1.53	0.14	0.090
26	Time for independent study projects	2.46	1.53	2.24	1.48	0.22	0.146
27	Work for higher grade textbook	1.82	1.81	1.40	1.57	0.42	0.248
28	More advanced curriculum unit	1.96	1.45	1.68	1.38	0.28	0.198
29	Group by ability across classrooms	1.89	1.82	1.79	1.82	0.11	0.055
30	Higher grade for specific instruction	0.65	1.38	0.36	1.01	0.28	0.240
31	Establish interest groups	1.56	1.38	1.42	1.26	0.14	0.104
32	Student's opinion in allocating time	2.23	1.55	2.10	1.48	0.13	0.086
33	Programmed materials	2.34	1.53	2.18	1.51	0.16	0.105
34	Encourage long-range projects	2.04	1.49	1.88	1.43	0.16	0.110
35	Questions to encourage reasoning	4.19	0.90	4.13	0.92	0.06	0.066
36	Ask open-ended questions	4.25	0.91	4.23	0.85	0.02	0.023
37	Encourage higher-level questions	4.21	1.02	4.08	1.03	0.13	0.127
38	Encourage discussion	4.74	0.50	4.72	0.52	0.02	0.039
39	Use computers	2.93	1.35	2.87	1.40	0.06	0.044

[1] Based on classrooms with formally identified gifted students.

[2] The difference score is calculated by subtracting the respondent's average score from their gifted score. Means are calculated from these difference scores. Difference scores are subject to rounding errors.

[3] The Effect Size (ES) is calculated by dividing the mean difference by the square root of the pooled within-group variance (Cohen, 1988).

Table 5.5

Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - Asian-American Sample[1]

	Classroom Practices Item	Gifted		Average		Mean[2] Difference	Effect[3] Size
		$\bar{X}$	SD	$\bar{X}$	SD		
1	Use basic skills worksheet	2.85	1.05	3.03	0.59	-0.18	0.180
2	Use enrichment worksheet	2.58	1.10	2.21	1.07	0.37	0.341
3	Assign advanced level reading	2.79	1.28	2.11	1.25	0.68	0.538
4	Use self-instructional kit	1.61	1.68	1.55	1.70	0.06	0.036
5	Assign reports	1.85	0.92	1.68	0.86	0.17	0.191
6	Assign projects	1.97	0.91	1.77	0.90	0.20	0.221
7	Assign book reports	1.80	1.01	1.76	0.95	0.03	0.041
8	Use puzzles or word searches	1.97	0.97	1.91	0.93	0.06	0.063
9	Creative writing; teacher's topic	2.66	1.03	2.63	1.01	0.04	0.029
10	Creative writing; student's topic	2.20	1.19	2.17	1.19	0.03	0.025
11	Time for self-selected interests	2.45	1.30	2.24	1.29	0.21	0.162
12	Pretests to determine mastery	1.66	0.98	1.57	0.96	0.09	0.093
13	Eliminate material students master	2.47	1.31	2.26	1.30	0.21	0.161
14	Repeat difficult concepts	2.77	1.26	3.50	0.97	-0.73	0.649
15	Different work for students mastering	2.65	1.27	2.28	1.26	0.35	0.292
16	Alternative instructional formats	2.91	1.33	2.95	1.27	-0.04	0.031
17	Various locations around classroom	3.17	1.43	3.05	1.48	0.12	0.082
18	Work in location other than class	1.92	1.38	1.61	1.32	0.31	0.230
19	Different homework based on ability	2.25	1.53	2.11	1.52	0.14	0.092
20	Use learning centers for basic skills	1.67	1.63	1.65	1.60	0.02	0.012
21	Use enrichment centers	1.77	1.64	1.59	1.54	0.18	0.113
22	Thinking skills in regular curriculum	3.77	1.08	3.76	1.06	0.01	0.009
23	Teach unit on thinking skills	2.60	1.30	2.55	1.30	0.05	0.038
24	Competitive thinking skills program	0.92	1.27	0.84	1.23	0.08	0.064
25	Contracts for independent study	1.70	1.57	1.66	1.55	0.04	0.026
26	Time for independent study projects	2.43	1.32	2.32	1.32	0.11	0.083
27	Work for higher grade textbook	1.38	1.64	0.88	1.40	0.50	0.328
28	More advanced curriculum unit	1.64	1.32	1.35	1.25	0.29	0.226
29	Group by ability across classrooms	1.97	1.92	1.86	1.93	0.11	0.057
30	Higher grade for specific instruction	0.54	1.30	0.31	1.01	0.23	0.198
31	Establish interest groups	1.69	1.28	1.55	1.26	0.14	0.110
32	Student's opinion in allocating time	2.34	1.34	2.28	1.35	0.06	0.045
33	Programmed materials	2.37	1.56	2.23	1.56	0.14	0.090
34	Encourage long-range projects	2.03	1.39	1.86	1.38	0.17	0.123
35	Questions to encourage reasoning	3.88	0.96	3.79	1.01	0.09	0.091
36	Ask open-ended questions	3.98	0.96	3.92	1.02	0.06	0.061
37	Encourage higher-level questions	3.89	1.10	3.81	1.13	0.08	0.072
38	Encourage discussion	4.59	0.67	4.59	0.67	0.00	0.000
39	Use computers	2.63	1.23	2.55	1.22	0.08	0.065

[1] Based on classrooms with formally identified gifted students.

[2] The difference score is calculated by subtracting the respondent's average score from their gifted score. Means are calculated from these difference scores. Difference scores are subject to rounding errors.

[3] The Effect Size (ES) is calculated by dividing the mean difference by the square root of the pooled within-group variance (Cohen, 1988).

Table 5.6

Means and Standard Deviations of Teacher Responses to the Classroom Practice Items for Gifted and Average Students - Native-American Sample[1]

	Classroom Practices Item	Gifted		Average		Mean[2] Difference	Effect[3] Size
		$\bar{X}$	SD	$\bar{X}$	SD		
1	Use basic skills worksheet	3.23	1.05	3.34	1.00	-0.11	0.108
2	Use enrichment worksheet	2.97	1.11	2.53	1.05	0.44	0.407
3	Assign advanced level reading	2.99	1.21	2.19	1.23	0.80	0.656
4	Use self-instructional kit	1.21	1.54	1.11	1.48	0.10	0.066
5	Assign reports	1.69	1.08	1.48	0.78	0.21	0.223
6	Assign projects	1.94	1.08	1.62	0.97	0.32	0.312
7	Assign book reports	1.67	1.11	1.56	0.99	0.11	0.105
8	Use puzzles or word searches	2.47	1.01	2.43	0.99	0.03	0.040
9	Creative writing; teacher's topic	2.53	1.04	2.45	1.00	0.08	0.078
10	Creative writing; student's topic	2.33	1.11	2.20	1.12	0.13	0.117
11	Time for self-selected interests	2.79	1.24	2.52	1.15	0.27	0.026
12	Pretests to determine mastery	1.78	1.12	1.77	1.12	0.01	0.009
13	Eliminate material students master	2.56	1.40	2.42	1.38	0.14	0.101
14	Repeat difficult concepts	2.90	1.30	3.64	0.99	-0.74	0.641
15	Different work for students mastering	2.99	1.23	2.46	1.29	0.53	0.420
16	Alternative instructional formats	3.11	1.29	3.09	1.21	0.02	0.016
17	Various locations around classroom	3.57	1.19	3.44	1.26	0.13	0.106
18	Work in location other than class	2.24	1.45	1.92	1.35	0.32	0.228
19	Different homework based on ability	2.06	1.52	1.85	1.48	0.21	0.140
20	Use learning centers for basic skills	2.38	1.67	2.36	1.60	0.02	0.012
21	Use enrichment centers	2.36	1.66	2.22	1.56	0.14	0.087
22	Thinking skills in regular curriculum	3.58	1.11	3.50	1.17	0.08	0.070
23	Teach unit on thinking skills	2.22	1.45	2.12	1.39	0.10	0.070
24	Competitive thinking skills program	1.03	1.32	0.69	1.04	0.34	0.286
25	Contracts for independent study	1.52	1.54	1.33	1.39	0.19	0.130
26	Time for independent study projects	2.51	1.37	2.25	1.37	0.26	0.190
27	Work for higher grade textbook	2.21	1.83	1.55	1.63	0.66	0.381
28	More advanced curriculum unit	2.03	1.50	1.59	1.33	0.44	0.310
29	Group by ability across classrooms	2.21	1.97	2.16	1.97	0.05	0.025
30	Higher grade for specific instruction	1.11	1.68	0.76	1.47	0.35	0.222
31	Establish interest groups	1.92	1.38	1.77	1.30	0.15	0.112
32	Student's opinion in allocating time	2.39	1.30	2.32	1.26	0.07	0.055
33	Programmed materials	2.65	1.43	2.32	1.45	0.33	0.229
34	Encourage long-range projects	1.92	1.28	1.70	1.17	0.22	0.179
35	Questions to encourage reasoning	3.77	0.93	3.63	1.00	0.14	0.145
36	Ask open-ended questions	4.01	0.87	3.86	1.00	0.15	0.160
37	Encourage higher-level questions	3.98	0.97	3.81	1.11	0.17	0.192
38	Encourage discussion	4.58	0.63	4.56	0.63	0.02	0.032
39	Use computers	2.56	1.02	2.42	1.08	0.14	0.133

[1] Based on classrooms with formally identified gifted students.

[2] The difference score is calculated by subtracting the respondent's average score from their gifted score. Means are calculated from these difference scores. Difference scores are subject to rounding errors.

[3] The Effect Size (ES) is calculated by dividing the mean difference by the square root of the pooled within-group variance (Cohen, 1988).

Table 5.7

Number of Items With Effect Sizes of Various Magnitudes Across the Six Samples

Magnitude of Effect[1]	Public	Private	Special Populations: African-American	Hispanic-American	Asian-American	Native-American
Large		1				
Medium	2	2	1	3	2	2
Small	8	16	7	9	6	10
Negligible	29	20	31	27	31	27

[1] Based on Cohen (1988) where effect sizes greater than 0.8 are considered large, effect sizes between 0.5 and 0.8 are medium, and effect sizes between 0.2 and 0.5 are considered small. Effect sizes below 0.2 are considered negligible.

Descriptive Results for Factor Scores

Inferential statistical analyses comparing teacher responses for average and gifted students were performed on the factor scores empirically derived from the 39 questionnaire items described above. In anticipation of these analyses, we look now at the means and standard deviations for these six factor scores.

Public School Sample

Table 5.8 presents factor means and standard deviations for the 1018 public school classrooms with formally identified gifted students and complete data on variables of interest. Teachers of these classes reported that both gifted and average students engaged in Questioning and Thinking activities every day (X=4.08 for gifted students; X=4.03 for average students) and engaged in providing Challenges and Choices less than a few times a month (X=1.74 for gifted students; X=1.54 for average students). Students engaged in activities represented by the remaining four factors a few times a month.

Higher mean scores were found for gifted than average students for all 6 factors. Mean differences ranged from 0.05 for Questioning and Thinking to 0.31 for Reading and Written Assignments. As was the case for the individual item means, these differences are small. In fact, three effect sizes are not large enough to be considered small by Cohen (1988) while three are in the small range. The extent to which they are statistically significant and practically meaningful will be discussed below.

Table 5.8

Means and Standard Deviations of Factor Scores for Gifted and Average Students - Public School Sample[1]

Factor		Gifted		Average		Mean[2] Difference	Effect[3] Size
		$\bar{X}$	SD	$\bar{X}$	SD		
I	Questioning & Thinking	4.08	0.71	4.03	0.72	0.05	0.070
II	Providing Challenges & Choices	1.74	0.79	1.54	0.73	0.20	0.263
III	Reading & Writing Assignments	2.10	0.74	1.79	0.65	0.31	0.445
IV	Curriculum Modification	2.37	0.92	2.17	0.85	0.20	0.226
V	Enrichment Centers	2.64	1.04	2.51	1.02	0.13	0.126
VI	Seatwork	2.38	0.79	2.24	0.72	0.14	0.185
	Total	2.55	1.12	2.38	1.13	0.17	0.151

[1] Based on classrooms with formally identified gifted students.

[2] The difference score is calculated by subtracting the respondent's average score from his or her gifted score. Means are calculated from these difference scores. Difference scores are subject to rounding errors.

[3] The Effect Size (ES) is calculated by dividing the mean difference by the square root of the pooled within-group variance (Cohen, 1988).

The public school sample was drawn to support comparisons among regions of the country (i.e., Northeast, North Central, South and West) and types of communities (i.e., urban, suburban, and rural). As can be seen in Table 5.9, the results by region are very similar to those for the country as a whole. That is, means for gifted students exceed those for average students for all six factors, but the differences are again small. A similar pattern is found within communities of different types, as can be seen in Table 5.10. Again, the statistical and practical significance of these differences will be discussed.

Table 5.9

Factor Score Means for Gifted and Average Students in Public School Sample by Region of the Country

Factor	Region							
	Northeast		South		North Central		West	
	Gifted (157)	Average (157)	Gifted (426)	Average (426)	Gifted (232)	Average (232)	Gifted (203)	Average (203)
I Questioning & Thinking	4.12	4.07	4.05	3.99	4.04	3.98	4.17	4.13
II Providing Challenges & Choices	1.80	1.66	1.73	1.51	1.63	1.43	1.81	1.65
III Reading & Writing Assignments	2.02	1.75	2.07	1.75	2.08	1.72	2.22	1.97
IV Curriculum Modification	2.29	2.15	2.33	2.15	2.35	2.11	2.52	2.28
V Enrichment Centers	2.54	2.46	2.66	2.51	2.68	2.52	2.65	2.52
VI Seatwork	2.48	2.35	2.43	2.29	2.38	2.14	2.25	2.16

Table 5.10

Factor Score Means for Gifted and Average Students in Public School Sample by Type of Community

Factor	Urban		Suburban		Rural	
	Gifted (288)	Average (288)	Gifted (340)	Average (340)	Gifted (390)	Average (390)
I Questioning & Thinking	4.13	4.08	4.13	4.08	4.00	3.94
II Providing Challenges & Choices	1.81	1.62	1.73	1.55	1.69	1.49
III Reading & Writing Assignments	2.14	1.85	2.05	1.76	2.11	1.77
IV Curriculum Modification	2.46	2.24	2.32	2.14	2.34	2.14
V Enrichment Centers	2.66	2.53	2.58	2.45	2.69	2.55
VI Seatwork	2.32	2.20	2.31	2.18	2.48	2.33

Private School Sample

Means and standard deviations of factor scores for the 48 private school classrooms in districts or schools with formal programs for the gifted are presented in Table 5.11. As was the case for the public school sample, private school students engaged in Challenge and Choice activities less than a few times a month and in Questioning and Thinking activities nearly every day. They were involved in Enrichment Center activities for up to a few times a week and activities associated with the other three factors more than a few times a month.

Teachers reported higher means for gifted than average students for all six factors and mean differences ranged from a low of 0.12 for Questioning and Thinking to a high of 0.44 for Reading and Written Assignments. In terms of effect sizes, one of these differences (Factor 5) is less than 0.2, and thus below Cohen's cut-off for small differences. Four effect sizes (Factors 1, 2, 4 and 6) are within the small range, and one (Factor 3) is large.

Table 5.11

Means and Standard Deviation of Classroom Practices Factor Scores for Gifted and Average Students in Private Schools With Programs for the Gifted[1]

Factor	Gifted		Average		Mean[2] Difference	Effect[3] Size
	$\bar{X}$	SD	$\bar{X}$	SD		
I Questioning & Thinking	3.95	0.56	3.83	0.65	0.12	0.20
II Providing Challenges & Choices	1.82	0.91	1.52	0.75	0.30	0.36
III Reading & Writing Assignments	2.16	0.62	1.72	0.50	0.44	0.78
IV Curriculum Modification	2.40	0.93	2.09	0.89	0.31	0.34
V Enrichment Centers	2.90	1.11	2.72	1.11	0.18	0.16
VI Seatwork	2.56	0.79	2.36	0.76	0.20	0.26

[1] Based on classrooms with formally identified gifted students.

[2] The difference score is calculated by subtracting the respondent's average score from his or her gifted score. Means are calculated from these difference scores. Difference scores are subject to rounding errors.

[3] The Effect Size (ES) is calculated by dividing the mean difference by the square root of the pooled within-group variance (Cohen, 1988).

Special Populations

Table 5.12 presents factor score means for average and gifted students in special population classrooms. Although some differences can be noted across samples, the pattern of results is consistent with that found for the general population and private

samples, namely that small differences favoring gifted students exist for all six factors of the Classroom Practices Questionnaire.

Table 5.12

Factor Score Means for Gifted and Average Students for Special Populations [1, 2]

Factor	African-American		Hispanic-American		Asian-American		Native-American	
	Gifted $\bar{X}$	Average $\bar{X}$	Gifted $\bar{X}$	Average $\bar{X}$	Gifted $\bar{X}$	Average $\bar{X}$	Gifted $\bar{X}$	Average $\bar{X}$
I Questioning & Thinking	4.05	3.96	4.23	4.18	4.05	4.00	3.67	3.86
II Providing Challenges & Choices	1.71	1.53	1.85	1.64	1.81	1.63	1.96	1.69
III Reading & Writing Assignments	2.14	1.85	2.30	2.04	2.20	2.02	2.20	1.89
IV Curriculum Modification	2.36	2.17	2.51	2.36	2.40	2.26	2.49	2.29
V Enrichment Centers	2.67	2.53	2.68	2.52	2.27	2.15	2.79	2.63
VI Seatwork	2.44	2.31	2.39	2.26	2.26	2.18	2.46	2.34

[1] Based on formally identified gifted students.

[2] Sample sizes are:

African-American	116	Asian-American	183
Hispanic-American	108	Native-American	115

Results of Statistical Comparisons

This section of the report presents the results of the primary analyses of within-class comparisons of gifted and average students for the general population of public schools, private schools, and schools with high concentrations of four types of ethnic minorities. We turn first to the results for the general population of public schools.

Public School Sample

The primary analyses of the public school data were concerned with: 1) whether there are within-class differences in the instructional activities provided gifted and average students in public schools across the nation, as measured by the 6 factors of the Classroom Practices Questionnaire; 2) whether there are differences in the nature of the services provided gifted and average students in public schools in various parts of the country; 3) whether there are differences in the nature of the services provided public school gifted and average students in various types of communities; and 4) whether there are differences in the nature of the services provided gifted and average students in school districts with formal programs for the gifted and those in which formal programs do not exist but

classroom teachers provide services to students in their class whom they perceive to be gifted.

Gifted/Average and Regional Comparisons. A multivariate analysis of variance (MANOVA) with repeated measures was used to determine whether differences existed between gifted and average students for the nation as a whole and then across regions of the country. Region of the country, which was treated as a between-subjects factor in this analysis, had four levels; type of student, a within subjects factor, had two levels (average and gifted). The 6 factor scores were the dependent variables. Multivariate omnibus tests were performed for the main effects due to type of student and region of the country, as well as for the interaction of these variables. These were followed by univariate F-tests for those effects found to be significant with the omnibus tests. Additional follow-ups were performed when significant univariate results were found.

The main effect for type of student was found to be statistically significant using Hotelling's T^2, $F(6,1009)=100.80$, $p<.0001$. Using the Wilks' criterion, the main effect for region of the country was also significant, $F(18,2854)=3.20$, $p<.0001$, as was the interaction between type of student and region of the country, $F(18,2854)=2.39$, $p=.0008$.

Univariate F-tests were therefore performed for type of student, and the univariate tests for all 6 dependent measures were found to be significant (see Table 5.13) even with a Bonferroni adjustment to control Type I error (see Table 5.8 for means). Although all of the differences are highly statistically significant, the reader must remember that the sample size for the analyses (1018 classrooms) is very large and that with large samples small differences can be statistically significant. Also, the six factor scores are correlated, and in some cases highly so, implying that the univariate tests are not independent. This means that the Type I error rate is inflated, even with Bonferroni adjustments.

Table 5.13

Results of Univariate F-Tests for the Six Factors of the Classroom Practices Questionnaire for the Main Effect of Type of Student

Dependent Variable	MS	F	df	p
Questioning & Thinking	1.12	37.83	1, 1014	.0001
Providing Challenges & Choices	14.37	332.90	1, 1014	.0001
Reading & Writing Assignments	40.29	499.08	1, 1014	.0001
Curriculum Modification	18.15	214.82	1, 1014	.0001
Enrichment Centers	7.79	162.31	1, 1014	.0001
Seatwork	8.06	160.15	1, 1014	.0001

Univariate F-tests were also performed to follow-up the significant multivariate findings for Region of the Country (see Table 5.14). These tests produced significant results at the .01 level for Reading and Written Assignments and for Seatwork. However, because the interaction of Type of Student and Region was also statistically significant, because this interaction takes precedence over the main effect, and be :ause the main effect for Region has no particular significance to this study, regional results will be described in the context of these interaction effects.

Table 5.14

Results of Univariate F-Tests for the Six Factors of the Classroom Practices Questionnaire for the Main Effect of Region of the Country

Dependent Variable	MS	F	df	p
Questioning & Thinking	2.05	2.08	3, 1014	.1009
Providing Challenges & Choices	3.88	3.59	3, 1014	.0144
Reading & Writing Assignments	4.13	4.64	3, 1014	.0031
Curriculum Modification	3.08	2.11	3, 1014	.0977
Enrichment Centers	0.75	0.36	3, 1014	.7823
Seatwork	4.50	4.09	3, 1014	.0067

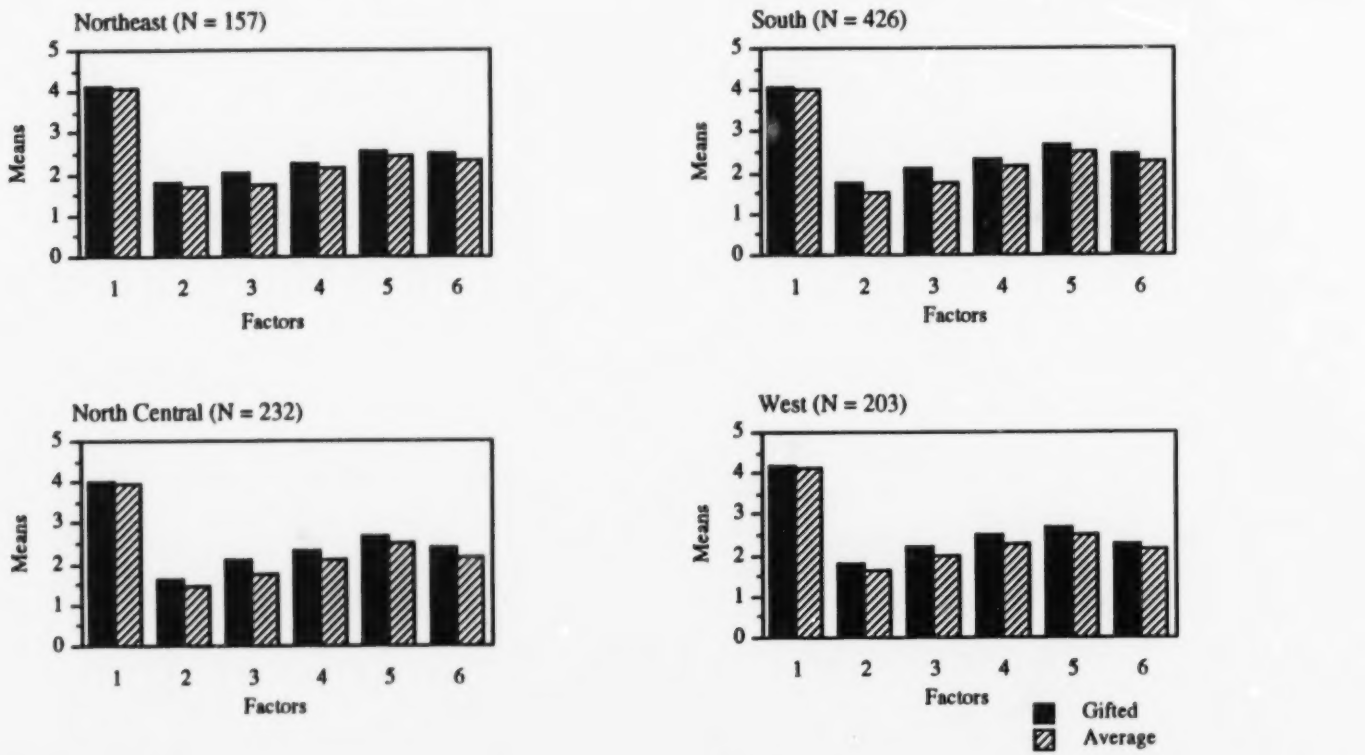
Univariate follow-ups for the interaction effect yielded statistically significant results ($p<.01$) for two dependent variables, as shown in Table 5.15. Simple effects for the Providing Challenges and Choices factor and for the Reading and Written Assignments factor were subjected to additional analyses to further understand the interaction, the meaning of which can be seen most readily in Figure 5.1. For each panel of the figure the gifted student means are greater than the average student means, an effect described above as the main effect for Type of Student. The significant interaction extends this finding by showing that the magnitude of the differences between gifted and average students varies somewhat by region, particularly for the Providing Challenges and Choices factor and the Reading and Written Assignments factor. For Providing Challenges and Choices, the differences between average and gifted means range from .14 in the Northeast to .20 in the North Central states. The differences for Reading and Written Assignments range from .25 in the west to .36 in the North Central. However, despite their statistical significance, these differences are quite small. As a result, it makes most sense to conclude that the significant interaction between Region of the Country and Type of Student only reinforces our earlier finding of small differences between average and gifted students for the nation as a whole.

Table 5.15

Results of Univariate F-Tests for the Six Factors of the Classroom Practices Questionnaire for Region and Type of Student

Dependent Variable	MS	F	df	p
Questioning & Thinking	0.0169	0.57	3, 1014	.6349
Providing Challenges & Choices	0.1670	3.75	3, 1014	.0107
Reading & Writing Assignments	0.3059	3.80	3, 1014	.0101
Curriculum Modification	0.2282	2.70	3, 1014	.0445
Enrichment Centers	0.0984	2.05	3, 1014	.1052
Seatwork	0.1339	2.66	3, 1014	.0469

Figure 5.1 Means for gifted and average students by the six factors of the CPQ by region of the country



Response Scale:

0 - Never
1 - Once a month or less frequently
2 - A few times a month
3 - A few times a week
4 - Daily
5 - More than once a day

Factors:

1 - Questioning and Thinking
2 - Providing Challenges and Choices
3 - Reading and Writing Assignments
4 - Curriculum Modifications
5 - Enrichment Centers
6 - Seatwork

Type of Community. Another repeated measures MANOVA was performed with type of community as the between-subjects factor, type of student (average vs. gifted) as the within-subjects factor and the 6 factor scores as dependent variables. This analysis provided a test of the main effect for Type of Student, with results as described above. It also provided a test of the main effect for Type of Community and the interaction between Type of Student and Type of Community.

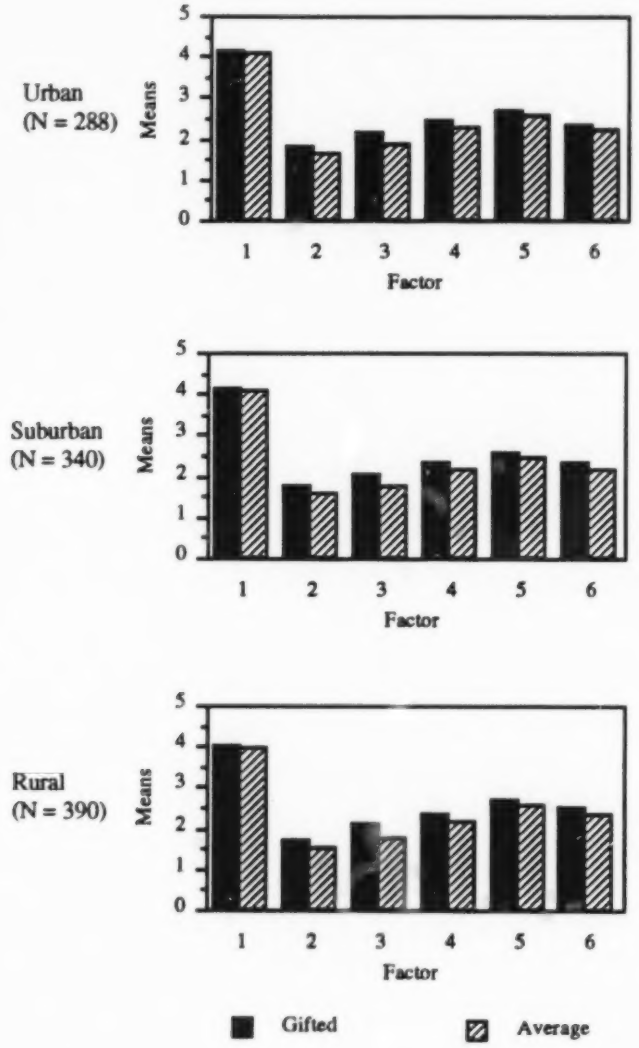
Using the Wilks' criterion, the main effect for community type was found to be significant, $F(12,2020)=2.74$, but there was no significant interaction between Type of Community and Type of Student, $F(12,2020)=165$, $p=.8020$. The results of univariate follow-ups for the community type main effect are summarized in Table 5.16. As can be seen in this table, statistically significant results ($p<.01$) were found only for the Seatwork factor with the result for Questioning and Thinking approaching significance. Since Seatwork means varied by no more than .16 points (i.e., X=2.24 for Suburban Schools and X=2.40 for rural schools) and since Questioning and Thinking means also varied by no more than .14 points (i.e., X=3.97 for rural schools and X=4.11 for suburban schools) these minor differences across student types will not be investigated further. We should mention, however, that even though the interaction was not significant, the pattern of results is quite similar to that presented above for Regions of the Country (see Figure 5.2). For each of the three community types and for all 6 factor scores, means for gifted students exceeded means for average students. These small differences remained constant across the three types of communities.

Table 5.16

Results of Univariate F-Tests Comparing Community Types on the Six Factors of the Classroom Practices Questionnaire

Dependent Variable	MS	F	df	p
Questioning & Thinking	4.20	4.27	2, 1015	.0142
Providing Challenges & Choices	2.63	2.38	2, 1015	.0927
Reading & Writing Assignments	1.26	1.40	2, 1015	.2470
Curriculum Modification	2.57	1.75	2, 1015	.1740
Enrichment Centers	2.07	1.00	2, 1015	.3686
Seatwork	5.74	5.21	2, 1015	.0056

Figure 5.2 Means for gifted and average students by the six factors of the CPQ by the type of community



Response Scale:

0 - Never

1 - Once a month or less frequently

2 - A few times a month

3 - A few times a week

4 - Daily

5 - More than once a day

Factors:

1 - Questioning and Thinking

2 - Providing Challenges and Choices

3 - Reading and Written Assignments

4 - Curriculum Modifications

5 - Enrichment Centers

6 - Seatwork

Formally Versus Teacher Identified Gifted. The results presented above for Type of Student, Region of the Country, and Type of Community are based on analyses of classrooms with formally identified gifted students, that is, classrooms in districts with formal gifted programs. Data were also available for districts that did not have formal gifted programs but had classrooms containing gifted students. The analyses described in this section compare regular classroom services for gifted students in these two types of classrooms.

Repeated measures MANOVA was used to perform statistical tests with Type of Student again serving as a within-subjects variable, the 6 scale scores again serving as dependent variables, and class composition (formally identified versus teacher identified gifted students) serving as a between-subjects variable. Results for the main effect of type of student were the same as reported above. Using the Hotelling T^2 criterion, a significant effect was found for the Class Composition variable (i.e., formally identified versus teacher identified), $F(6,1440)=3.20$, $p=.004$, but no significant interaction was found between Gifted Identification and Type of Student, $F(6,1440)=1.55$, $p=.1577$.

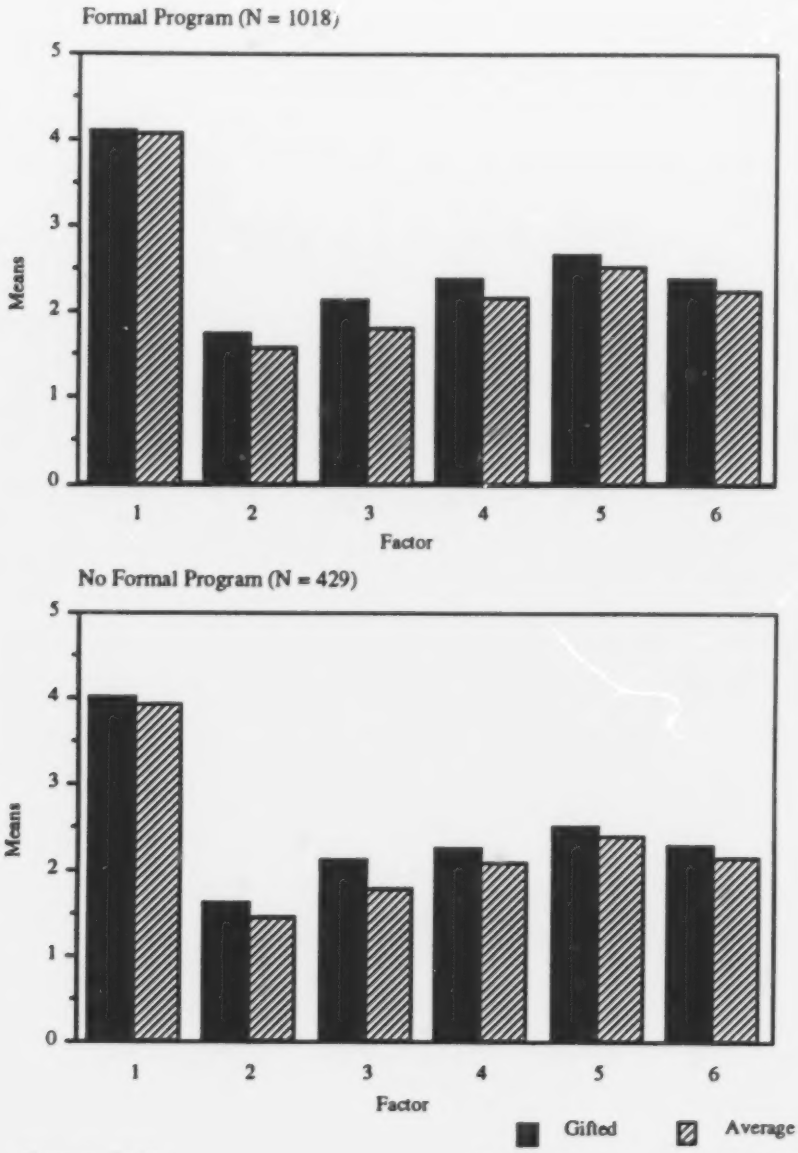
Table 5.17 summarizes the results of univariate F-tests for the Class Composition variable. Although statistically significant results were found for Providing Challenges and Choices and near significance was uncovered for Questioning and Thinking, the findings have limited practical significance since the comparisons were performed by combining the gifted and average student means. More meaningful for this study are the results for the main effect of Type of Student and the interaction of Type of Student and Class Composition. Since there are differences between gifted and average means but there is no significant interaction, it follows that the small differences favoring gifted students on all six dependent measures are maintained across classrooms containing either formally identified or teacher identified gifted students (see Figure 5.3). Said in another way, gifted students receive some but not a great deal of differentiated education in the regular classroom, whether or not these classrooms are in districts with formal programs for the gifted.

Table 5.17

Results of Univariate F-Tests Comparing Classrooms With Formally Identified and Teacher Identified Gifted Students on the Six Factors of the Classroom Practices Scales

Dependent Variable	MS	F	df	p
Questioning & Thinking	6.76	6.49	1, 1445	.0109
Providing Challenges & Choices	7.70	7.13	1, 1445	.0067
Reading & Writing Assignments	0.01	0.01	1, 1445	.9195
Curriculum Modification	6.29	4.34	1, 1445	.0373
Enrichment Centers	11.17	5.39	1, 1445	.0202
Seatwork	6.09	5.59	1, 1445	.0181

Figure 5.3 Means for gifted and average students in districts with and without formal gifted programs



Private School Sample

The major issues addressed with the private school data were whether there were within-classroom differences in the types of services received by gifted and average students and whether having a formal program for the gifted had an effect on the nature of these services. A multivariate analysis of variance with repeated measures was also used to test hypotheses related to these issues. Scores on the six Classroom Practices subscales served as the dependent variables for this analysis. Independent variables included type of student, which was a within-subject variable, and type of classroom, a between-subjects variable. Type of student refers to average versus gifted students. Type of classroom had two levels: (1) classrooms in schools or districts with formal programs for the gifted (N=48); and (2) classrooms in settings without formal programs but having students whom the teachers identified as gifted (N=149).

As was the case for public schools, the MANOVA yielded a statistically significant result for the comparison of the set of average and gifted scores (Hotelling's T^2 test, $F(6,190)=29.33$, $p<.0001$) for the main effect for student type. Univariate F-tests on each of the six Classroom Practices subscales for Type of Student also produced significant results, and in all cases the mean scores for gifted students were significantly greater than the mean scores for average students. Although the main effect for Type of Classroom was not significant ($F(6,190)=1.97$, $p=.0726$), the interaction of Type of Student and Type of Classroom was statistically significant using the Hotelling T^2 criterion ($F(6,190)=2.78$, $p=.0130$). Follow-up univariate F-tests (see Table 5.18) resulted in significant differences for the Providing Challenges and Choices subscale and near significance for Reading and Written Assignments ($p<.01$). As indicated in Figure 5.4, which graphs the cell means on which this interaction is based, gifted students received more differentiated instruction than average students in settings with both formal gifted programs and with no formal programs but in which teachers perceive students to be gifted. However, gifted students in formal program settings received an even greater amount of instruction on the Providing Challenges and Choices and the Reading and Written Assignments factors than gifted students in classrooms without formal programs.

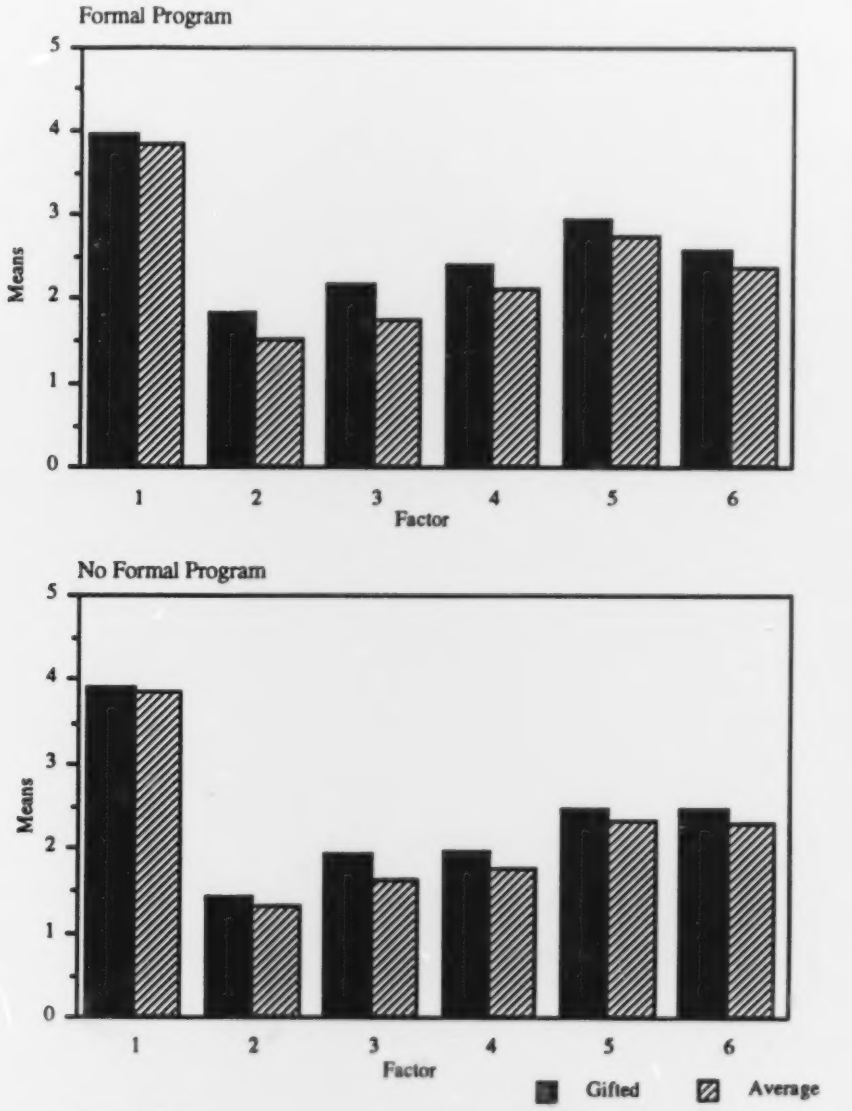
Despite these findings of statistical significance, we must again be concerned with the magnitude of the effects. For the difference between average and gifted students (i.e., the main effect for Student Type), the differences on factor 3, Reading and Written Assignments, is large. Thus, it is both statistically significant and practically important. Private school teachers appear to make significant adjustments for gifted students relative to this factor. They also make sizable adjustments relative to the Providing Challenges and Choices and Curriculum Modification scales, but little adjustment for the other three factors.

Table 5.18

Results of Univariate F-Tests of the Interaction of Type of Classroom With Type of Student for the Private School Sample

Dependent Variable	MS	F	df	p
Questioning & Thinking	0.07	2.49	1, 195	.1161
Providing Challenges & Choices	0.45	11.60	1, 195	.0008
Reading & Writing Assignments	0.46	5.99	1, 195	.0153
Curriculum Modification	0.24	2.76	1, 195	.0982
Enrichment Centers	0.05	1.04	1, 195	.3093
Seatwork	0.00	0.01	1, 195	.9230

Figure 5.4 Plot of mean factor scores for gifted and average students in private school classrooms with and without formal gifted programs

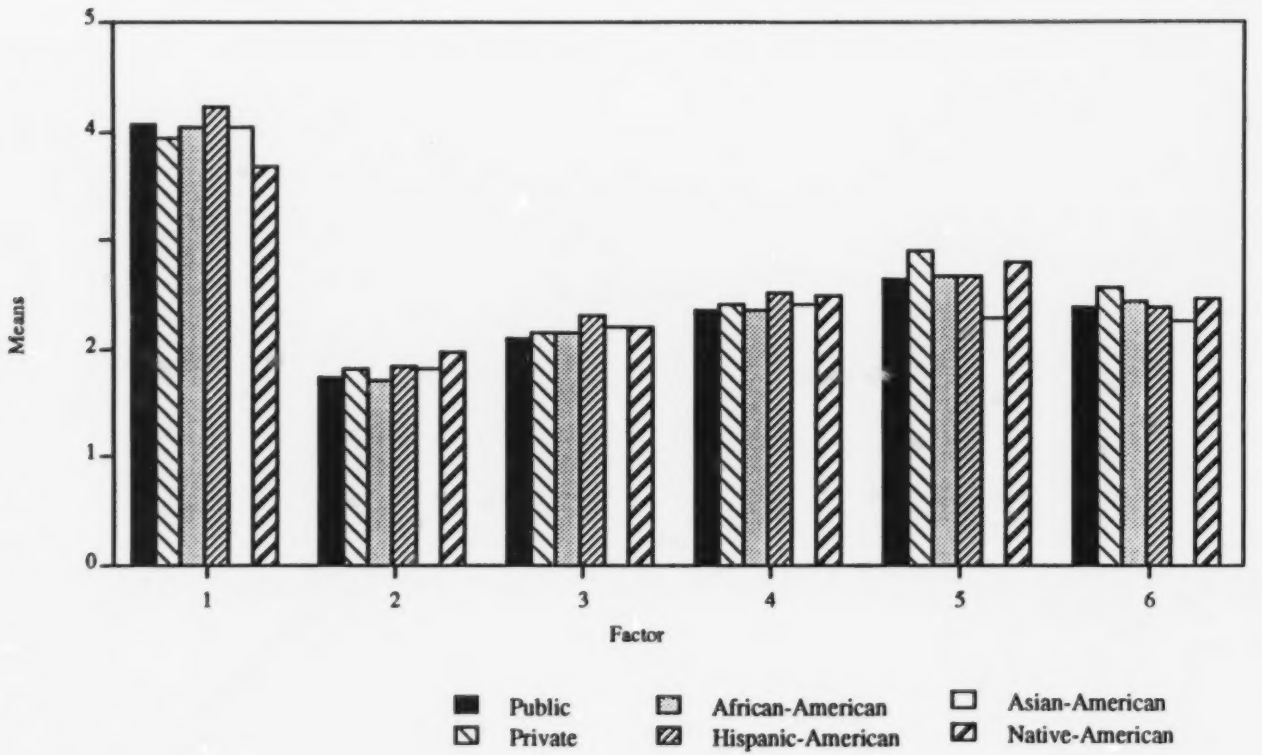


Across Sample Comparisons for Gifted Students

The final set of analyses was concerned with the services received by gifted students across the six samples. These analyses were designed to determine whether gifted students in certain samples received more or less of the services measured by the Classroom Practices Questionnaire than students in the other samples. Statistical tests of hypotheses relating to this issue were performed using MANOVA with "sample" as the between-subjects factor and the 6 factor scores as dependent variables. These analyses were performed for gifted students only.

Using the Wilks' criterion, the main effect for sample was found to be significant, $F(30,6730)=2.90$, $p<.0001$. Univariate F-tests yielded significant results for 2 of the 6 dependent measures, namely, Questioning and Thinking ($F(5,1687)=2.32$, $p=.0410$) and Enrichment Centers ($F(5,1687)=5.99$, $p<.0001$). Figure 5.5 depicts the means for the six samples on these two subscales and the other four subscales as well. As suggested by the analyses, the scores for each subscale are generally comparable. Scheffé follow-ups for the Questioning and Thinking variable produced no significant results for all pairwise comparisons. Although not significant, the mean for Hispanic-Americans was higher than the means of all other groups. For the Enrichment Centers subscale, Scheffé tests revealed that the mean for Asian-Americans was significantly lower than the means for all other groups.

Figure 5.5 Plot of means for formally identified students



Response Scale:

0 - Never
1 - Once a month or less frequently
2 - A few times a month
3 - A few times a week
4 - Daily
5 - More than once a day

Factors:

1 - Questioning and Thinking
2 - Providing Challenges and Choices
3 - Reading and Writing Assignments
4 - Curriculum Modifications
5 - Enrichment Centers
6 - Seatwork

Special Populations

As was the case for private schools, analyses of classroom practices data for schools with high concentrations of ethnic minorities focused primarily on whether there were within-classroom differences in the types of services received by average and gifted students and whether having a formal program for the gifted had an effect on these services. A multivariate analysis of variance (MANOVA) was again used to test the research hypotheses.

Although some differences can be noted across the four samples, the results for African-Americans, Asian-Americans, Hispanic-Americans, and Native-Americans are remarkably similar to each other and to those described above for the general population and for private schools. That is, there are statistically significant differences between average and gifted students for all six factors of the Classroom Practices Questionnaire except for Questioning and Thinking in schools with high concentrations of Hispanic-American and African-American students (see Table 5.19), and these differences favor gifted students. Further, there is no significant interaction between type of student and program type (i.e., whether or not the district had a formal program for gifted students),[2] and the differences between average and gifted students are of the same order of magnitude as found in previous analyses, differences which have been described above as small (see Table 5.12 for mean scores on average and gifted students and Appendix E).

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[2] Results for multivariate tests of the interaction using Hotelling's T^2 are as follows:

Asian-Americans	F(6,205)=1.00, p=.4263
African-Americans	F(6,143)=.61, p=.7216
Hispanic-Americans	F(6,143)=1.46, p=.1946
Native-Americans	F(6,176)=1.15, p=.3336

Table 5.19

Results of Univariate F-Tests Comparing Gifted and Average Students' Scores on the Six Classroom Practices Scales for the Special Populations Sample

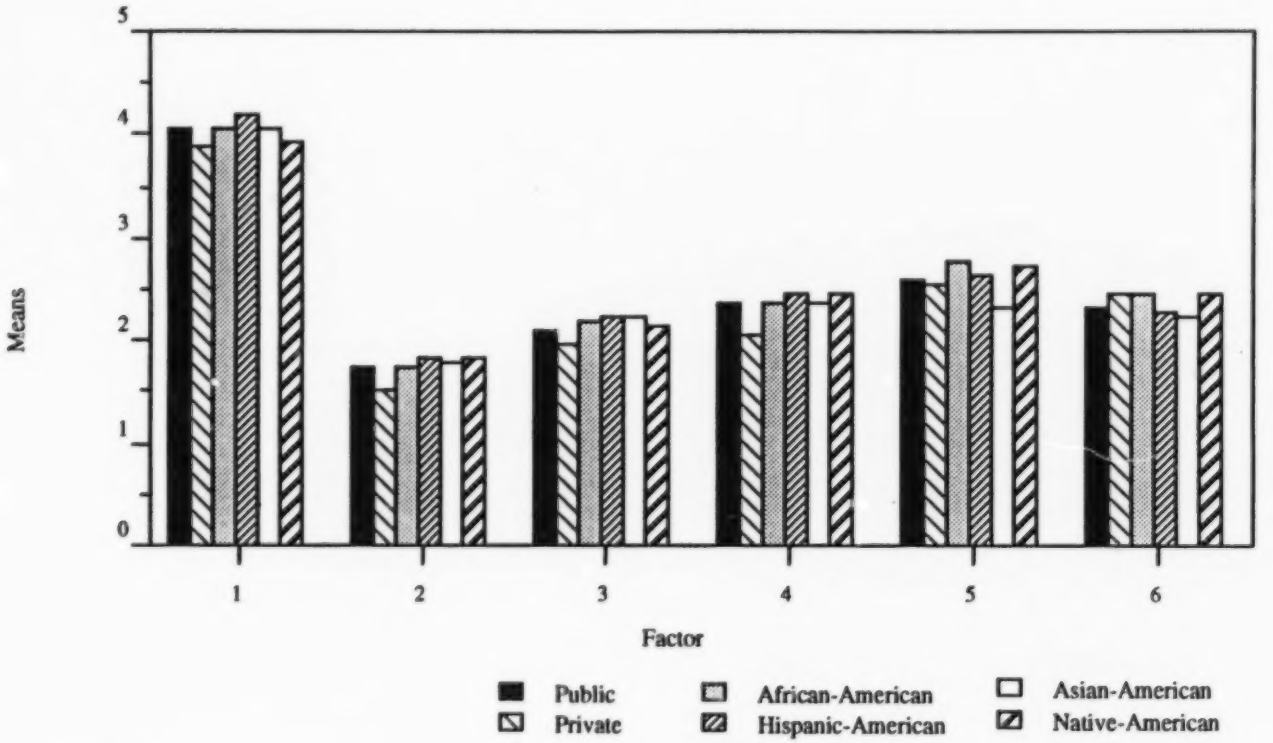
Factor	African-American df = 1, 210	Hispanic-American df = 1, 148	Asian-American df = 1, 148	Native-American df = 1, 181
Questioning & Thinking	$E = 2.84$, $p = .09$	$E = 16.56$, $p = .06$	$E = 14.49$, $p < .01$	$E = 25.10$, $p < .01$
Providing Challenges & Choices	$E = 27.10$, $p < .01$	$E = 37.31$, $p < .01$	$E = 54.58$, $p < .01$	$E = 102.71$, $p < .01$
Reading & Writing Assignments	$E = 45.68$, $p < .01$	$E = 67.34$, $p < .01$	$E = 65.31$, $p < .01$	$E = 140.12$, $p < .01$
Curriculum Modification	$E = 17.11$, $p < .01$	$E = 19.99$, $p < .01$	$E = 10.78$, $p < .01$	$E = 56.20$, $p < .01$
Enrichment Centers	$E = 19.78$, $p < .01$	$E = 22.23$, $p < .01$	$E = 4.30$, $p < .01$	$E = 62.48$, $p < .01$
Seatwork	$E = 6.39$, $p < .01$	$E = 26.09$, $p < .01$	$E = 10.90$, $p < .01$	$E = 33.95$, $p < .01$

Note: Results for multivariate tests using Hotelling T^2 are as follows:

African-American	$F(6, 205) = 10.88$, $p = .0001$
Hispanic-American	$F(6, 143) = 16.56$, $p = .0001$
Asian-American	$F(6, 143) = 16.95$, $p = .0001$
Native-American	$F(6, 176) = 180.70$, $p = .0001$

The above analyses were performed for formally identified gifted students only. A parallel analysis on classrooms with either formally identified or teacher identified gifted students also yielded statistically significant results using the Wilks criterion ($F(30,9610)=4.12$, $p<.0001$). Univariate F-tests produced statistically significant results for all six dependent measures ($p<.01$). Figure 5.6 plots the means used in these analyses. For the Questioning and Thinking factor, Scheffé tests indicated that the means for Hispanic-Americans and Private Schools were different, with the former being larger. For the Providing Challenges and Choices as well as the Curriculum Modification subscales, the mean for private schools was lower than the means of all other groups. For Reading and Written Assignments, the Private School mean was lower than the means for Asian-American and Hispanic-Americans. Finally, for Seatwork the mean for Private Schools was higher than the mean for the Asian-American sample. Possible reasons for these differences will be discussed in the chapter which follows.

Figure 5.6 Plot of means for formally and teacher identified gifted students



Response Scale:

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4 - Daily
5 - More than once a day

Factors:

1 - Questioning and Thinking
2 - Providing Challenges and Choices
3 - Reading and Writing Assignments
4 - Curriculum Modifications
5 - Enrichment Centers
6 - Seatwork

CHAPTER 6: Summary and Conclusions

Research has shown that the large majority of gifted students across this nation spend all but two to three hours per week in regular classrooms (Council of State Directors, 1987; Cox, Daniel, & Boston, 1985). It follows, therefore, that what happens in this setting will have a profound effect on what gifted students learn, how they feel about school, the subjects they take, and the career paths they follow. Since these students are among the "best and brightest" this country has to offer, what happens to them in regular classrooms will also directly affect the future of our nation.

Given its importance, it is surprising that so little research has been conducted on what happens to gifted students in the regular classroom. Cox, Daniel, & Boston (1985) reported that enrichment in the regular classroom was the second most popular programming option for the gifted (part-time special classes was the most popular), but that very few districts offered programs they judged to be substantial. Reis (1989) reported that only minor modifications are being made in regular classrooms to meet the needs of the gifted. Taylor and Frye (1988) and the Education Products Information Exchange (1979) found that the regular curriculum provides little challenge for gifted students and Bernstein (1985) reported that many textbooks are no longer appropriate for the gifted because their difficulty has dropped by as much as two or more grade levels in recent years (Kirst, 1982; Steen, 1989). However, little is known about the curriculum practices and instructional techniques regular classroom teachers use with gifted students, and even more importantly, whether these practices result in what experts have called differentiated education for the gifted (Marland, 1971; Passow, 1982; Renzulli, Reis, & Smith, 1981; Ward, 1961).

The Classroom Practices Study was designed to provide information about these concerns. More specifically, it addressed two major research questions:

1. What instructional practices are used with gifted and talented students (including ethnic minorities, individuals of limited English proficiency, and individuals with handicaps) in heterogeneously and homogeneously grouped elementary classrooms across the country?

2. How do teachers specifically modify instructional practices and regular curriculum materials to meet the needs of gifted and talented students in heterogeneously and homogeneously grouped elementary classrooms across the country?

Methods

These questions were addressed through a nationwide survey of over 7300 third and fourth grade teachers, including teachers in public schools (n=3993), private (predominantly church-related) schools (n=980), and schools with high concentrations of four types of ethnic minority students, namely, African-Americans (n=592), Asian-Americans (n=587), Hispanic-Americans (n=582), and Native-Americans (n=580). The response rate across the 6 samples was approximately 50%.

An instrument called the Classroom Practices Questionnaire (CPQ) was designed for the survey. This instrument solicited information on the background of teachers, the policies and procedures their schools and districts had adopted for educating gifted students, and the classroom practices teachers used with gifted and average students. Teacher reports of their own behavior with both types of students provided a measure of

the extent to which gifted students were receiving an enriched or differentiated education. A total of 39 items were included in the classroom practices portion of the CPQ. These 39 items were reduced to 6 scales using principal factor analysis (Tabachnick & Fidell, 1989): (1) Questioning and Thinking; (2) Providing Challenges and Choices; (3) Reading and Written Assignments; (4) Curriculum Modifications; (5) Enrichment Centers; and (6) Seatwork. The variance accounted for by this solution, which included all but two of the 39 items, was 38%. Alpha reliabilities for the six factors were .83, .79, .77, .72, .72, and .53, respectively.

Classroom practices data were analyzed using descriptive statistics and multivariate analysis of variance (MANOVA) with repeated measures performed by SPSS-X and BMDP. Hotelling's t^2 and Wilk's Lambda criteria were used to determine statistical significance for the MANOVA analyses. Univariate F-Tests were used to follow-up significant MANOVA results.

Results

The most salient survey finding is that the third and fourth grade teachers who responded to this survey made only minor modifications in the regular curriculum to meet the needs of gifted students. This result was found for public schools, private schools and public schools with high concentrations of African-American, Asian-American, Hispanic-American, and Native-American students.

The most frequent provision made for gifted students by third and fourth grade classroom teachers in all types of schools was the use of Questioning and Thinking Skills (Factor 1), however, classroom teachers also used questioning and thinking skills activities about as frequently to meet the needs of average students. Factor 2 (Providing Challenges and Choices) assessed the extent to which teachers used advanced curriculum units, independent study, ability grouping, acceleration to higher grade level content, and other approaches to meet the needs of the gifted. Respondents indicated that they used these provisions with gifted students less than a few times a month. And again, only minor differences were noted in the use of these provisions for gifted students as compared to average students.

Teachers indicated they used Reading and Written Assignments (Factor 3) only slightly more often than the Challenge and Choice activities. When asked about practices such as assigning advanced level reading or allowing extended-time projects, classroom teachers indicated that they provided these options to gifted students a few times a month and to average students slightly less often. The same frequency of use was indicated for Curriculum Modification (Factor 4). Classroom teachers indicated only moderate use of practices within this factor, such as pretests to determine mastery, elimination of material students had already mastered, substitution of different assignments in class and homework based on students' ability. These strategies were used a little more than a few times a month for both gifted and average students.

Enrichment Centers (Factor 5) were used only slightly more often for both gifted and average students, according to the teachers responding to the survey. These strategies were used between a few times a month and a few times a week with only slight differences between frequency of use for gifted and average students. For the sixth factor of the Classroom Practices Questionnaire, Seatwork, a similar pattern emerged. Classroom teachers indicated that they used enrichment worksheets and other seatwork activities only a

few times a month, and the frequency of use of these activities with gifted and average students was quite comparable.

Although the results indicated only small differences between gifted and average students, it should be noted that the analytic procedures found the means for gifted students to be significantly larger than the means for average students across all analyses, except those involving the Questioning and Thinking factor for the African-American and Hispanic-American samples. In these latter two instances, no significant differences were found. Cohen (1988) and others have argued that since small differences can be statistically significant when sample sizes are large, as was the case in the present research, the magnitude of the effects must also be considered when interpreting results. Cohen suggests further that magnitude be assessed by effect size, which in its simplest form is the difference between two means divided by the pooled within-group standard deviation. Using this procedure, only one of the gifted/average differences across the 6 samples was found to be of medium size (.5 to .8, according to Cohen), some were in the small range (.2 to .5), but most were very small or negligible (below .2), thus leading to the conclusion that classroom teachers make only minor modifications in the regular curriculum to meet the needs of the gifted.[3]

The data were also analyzed to determine whether there were differences in the type of instruction and services delivered to gifted and average students in various parts of the country and in communities of different size. In general, the results found for each of the four regions (Northeast, South, West, and North Central) were quite similar to those found for the nation as a whole. Similar patterns of results also were found in rural, urban, and suburban communities. And in both instances only minor modifications were made in the services received by gifted students.

Acknowledging that the modifications are minor, inspection of the individual item means indicates that teachers who provide for the gifted are likely to assign them advanced readings, independent projects, enrichment worksheets, and reports of various kinds. Some classroom teachers also attempt to eliminate material that students have mastered, provide the opportunity for more advanced level work, give gifted students some input into how classroom time is allocated, and expose gifted students to higher level thinking skills.

However, gifted students are given no more opportunity than average students to work in locations other than the regular classroom, to use enrichment centers, pursue self-selected interests, work in groups with students having common interests, move to a higher grade for specific subject area instruction, work with students of comparable ability across classrooms at the same grade level, work on an advanced curriculum unit on a teacher-selected topic, participate in a competitive program focusing on thinking skills/problem solving, or receive concentrated instruction in critical thinking and creative problem solving. Further, most gifted and average students appear to participate in these experiences only a few times a month or less.

The results also indicated that the regular classroom services provided to gifted students in schools with formal gifted programs are similar to those provided in schools without formal programs but in which classroom teachers identify gifted students and make provisions for them. Few obvious differences were noted in the responses of teachers who

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[3]The private school sample produced the largest differences between gifted and average students. For reading and written assignments the effect size was .78; for all other scales except enrichment centers the effect size was between .2 and .5.

teach in schools in which a gifted program exists and schools in which a formal program does not exist.

Conclusions and Recommendations

The results of this survey paint a disturbing picture of the types of instructional services gifted students receive in regular classrooms across the United States. It is clear from the results that teachers in regular third and fourth grade classrooms make only minor modifications in the curriculum and their instruction to meet the needs of gifted students. Since gifted students spend all but two or three hours per week in this environment, one could easily argue that they deserve more. John Feldhusen eloquently summarizes the needs of gifted students for "fast paced high level, conceptually oriented learning activities, in large, challenging chunks taught in a dynamic and interactive style..." (1989, p. 55) . He also describes the characteristics of gifted students that would necessitate different classroom practices. According to Feldhusen, gifted students are far ahead of their age-grade peers in basic skills. They are able to learn much more rapidly than students of more average ability, they are adept in dealing with complex concepts and abstract material, they are precocious in thinking skills, and they are advanced in verbal abilities. Unfortunately, the results of this survey indicate that gifted students receive few of the services that can be used to address their unique characteristics and academic needs in an elementary classroom setting. Further, since many districts have eliminated or are in the process of eliminating resource room programs due to economic problems or concerns about the equity of grouping students homogeneously, the future appears even more bleak than the present.

The above results must be considered in the light of the characteristics of classroom teachers who responded to the survey and the number of gifted students in their classrooms. Almost half of the teachers in the public school sample had obtained a Masters degree, and almost 90% were Caucasian-American, even though attempts were made to include teachers who taught in economically disadvantaged urban and rural communities. This sample of classroom teachers also had many years of teaching experience, as over 70% of the respondents had taught for more than ten years. Given the high percentage of teachers with both extensive experience and advanced degrees, we might have expected that more of the classroom practices included in the CPQ would have been used on a regular basis both for gifted and for average students. However, it is clear from the data that many of the strategies were used infrequently, often less than once a month. Some strategies were used more often, but rarely were strategies used on a daily basis. Further, no strategies were used more than once a day. We expected that practices such as curriculum modification, use of advanced content, independent study and challenging curriculum units, for example, would have been used on a daily or weekly basis to meet the needs of gifted students.

Over one third of the classroom teachers who responded to this survey indicated that they had no 'formally' identified gifted students in their classrooms. This finding is somewhat troubling as many programs have been established in the two decades since the publication of The Marland Report. Yet, almost 38% of the teachers in the Public School sample reported no identified gifted students in their third and fourth grade classrooms, the grades at which gifted programs most frequently begin (Cox, Daniel & Boston, 1985). This relatively high percentage may indicate that many schools and grade levels are still without formal programs and identification procedures.

The teacher background information gathered in the survey also indicated that 61% of the responding teachers had received no staff development in the area of gifted

education. This finding is surprising, given the number of years that these respondents had been teaching. However, it may help to explain why classroom teachers did so little to provide different options for gifted students. Because of the results on this large national sample, concerns must also be raised about other classroom teachers across the country.

What can be done to improve the education of gifted students? First, every effort should be made to continue to offer gifted programs, thereby bringing gifted students in contact with teachers who are specially trained to meet their needs. If finances or other considerations dictate that these programs be eliminated, new and more concentrated efforts must be made to help classroom teachers provide gifted students with an enriched curriculum. These efforts must certainly include the selection or development of curriculum materials specifically designed for classroom teacher use. They should also include new approaches for training teachers to use these materials, to identify the gifted, to compact the regular curriculum, and to become more flexible in meeting the needs of all students, including gifted students. Effective staff development carried out in a sustained fashion must include modeling and demonstration, opportunity for practice, and a system for providing feedback and coaching. Teachers should be given the opportunity to develop skills in areas such as diagnosing students' learning needs, writing curriculum, designing units of instruction that allow students to pursue independent or small group work on assigned topics, organizing curriculum so it is flexible and thereby able to meet the diverse learning needs of students, and evaluating students learning.

To enable classroom teachers to attain skills designed to meet the needs of gifted students, a redefinition of the role of gifted specialist may also be in order. In addition to serving as a resource to students, gifted specialists may also be need to spend significant portions of their time serving as a resource to classroom teachers or collaborating with school district staff development personnel to develop comprehensive training programs to meet the needs of gifted students in the regular classroom. Successful training will depend on the teachers' belief systems and attitudes toward curricular adjustment for gifted and talented students. The responders in this survey indicated that they had gifted students in their classroom, yet only minor modifications were made in the curriculum for these students. Therefore, staff development efforts should include attention to teachers' belief systems.

Teachers will need more planning time as they attempt to meet the needs of individual students in the classroom. The survey indicated that the factors with the highest means were Factor One: Questioning and Thinking and Factor Two: Enrichment Centers. Perhaps these were the most frequently used strategies because they take the least amount of teacher preparation time. For example, after a teacher has learned how to guide a discussion, the remaining items under the Questions and Thinking factor can more easily be accomplished. After teachers have designed an enrichment center, it can be reused and supplements can be added easily to it. Teachers need preparation time to plan and provide differentiated experiences for gifted students.

To maximize curriculum and program flexibility, it is appropriate to develop written policy statements regarding acceleration. A high percentage of teachers in all samples surveyed were not encouraged to accelerate students to the next level of instruction, and many of the districts had policies that actually restricted the use of acceleration. There is little basis in either research of effective practice to restrict the use of acceleration with students. For example, Kulik, (1992) recent analysis of research on ability grouping found that talented students profited greatly from work in accelerated classes; in fact, "talented students from accelerated classes outperformed nonaccelerates of the same age and IQ by almost one full year on the grade-equivalent scales of standardized achievement tests. (p. xv)." Rogers (1991) conducted a review of research on the relationship between grouping

practices and their effects on gifted and talented students. She concluded that students who are "gifted and talented should be given experiences involving a variety of appropriated acceleration-based options, which may be offered to gifted students as a group or on an individual basis (p. 4)."

What effect did the existence of a gifted program in the district have on the regular classroom practices used with gifted and talented students? Classroom teachers in schools with a gifted program employed the strategies assessed by the CPQ only slightly more frequently than teachers in schools with no gifted program. This finding may support at least two conclusions: (1) that regular classroom teachers in districts with formal programs rely on the gifted resource teacher to meet the needs of gifted students; and (2) that gifted resource teachers have little effect on what classroom teachers do to meet the needs of the gifted, probably because these resource teachers have served primarily in a teaching role. This, unfortunately, raises other questions. Is the gifted specialist trained in strategies which can be used in the classroom? Many states do not have certification laws for teachers of the gifted. As a result, many of these teacher specialists have limited knowledge about how to work with gifted students. Asking them to modify their role to include staff development may require skills, experiences, and background qualifications that some gifted education specialists simply do not have. And, if the role of the gifted education specialist shifts from providing only direct services to students to a role that includes providing staff development and support to classroom teachers, the few hours each week that identified gifted students are working in a challenging and stimulating environment with their peers may be lessened. Clearly, further discussion is needed about the role gifted specialists can play in improving the services gifted students receive in the regular classroom.

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Appendix A

Classroom Practices Questionnaire

Classroom Practices - Teacher Survey

The National Research Center on the Gifted and Talented

University of Connecticut
University of Georgia
University of Virginia
Yale University

NRC G/T

This study focuses on the nature of regular classroom practices used in schools across the United States. You can help us learn more about these practices by taking a few minutes to complete this questionnaire. Please be assured that your answers will be kept strictly confidential and that all reporting will be done at the group level.

I. Teacher Information

Please check the box that describes you.

1. **Gender** ☐ Male ☐ Female

2. **Ethnicity**
   ☐ Hispanic-American ☐ African-American ☐ Native-American
   ☐ Caucasian-American ☐ Asian-American/Pacific Islander ☐ Other (_____)

3. **Years of teaching experience** _____

4. **Highest Degree Earned**
   ☐ BA/BS ☐ MA/MS ☐ (Sixth year/Ed. Spec.)
   ☐ Ph.D./Ed.D. ☐ Professional Diploma ☐ Other (_____)

5. **Training in teaching of gifted/talented**
   (Check all that apply)
   ☐ None ☐ District inservice ☐ Workshop outside district
   ☐ Course(s) at college/university ☐ Educational degree in area

6. **Grade level now teaching** _____

II. School and District Information

Please answer the following questions about your school and district.

1. **Using the scale below, what percent of students *in your school* belong to each of the following ethnic groups?**
   0 = 0%, 1 = Up to 10%, 2 = 11% to 25%, 3 = 26% to 50%, 4 = 51% or more, 5 = Don't Know
   ____ African-American
   ____ Asian-American/Pacific Islander
   ____ Hispanic-American
   ____ Native-American
   ____ Caucasian-American
   ____ Other

2. **Has a formal definition of giftedness been adopted by your district?**
   ☐ Yes ☐ No ☐ Don't Know

3. **What is the lowest grade level for which there is a formal gifted program in your district?** _____

4. **Which of the following measures and/or checklists does *your district* use to formally identify gifted students? (Check all that apply)**

- ☐ IQ Tests (Group or Individual)
- ☐ Achievement Tests
- ☐ Grades
- ☐ Teacher Rating Scales
- ☐ Student Products/Portfolios
- ☐ Teacher Nomination
- ☐ Parent Nomination
- ☐ Student Self-Nomination
- ☐ Student Interview
- ☐ Peer Nomination
- ☐ Creativity Tests
- ☐ Don't Know
- ☐ Other, Specify: _____ _____

5. **Does your district have a policy regarding the acceleration of the regular curriculum for high ability students?**

☐ Yes. ☐ No ☐ Don't Know

If yes, which of the following applies?

- ☐ Classroom teachers are encouraged to accelerate students into the next level or the next academic grade.
- ☐ Classroom teachers are encouraged to provide higher level or enriched content material in their classrooms, but are not permitted to accelerate students into the next level or academic grade.
- ☐ Classroom teachers are not allowed to provide advanced level curriculum for higher ability students and are not permitted to accelerate students into the next level or academic grade.
- ☐ Other (Specify _____)

6. **Does your school district employ a coordinator of programs for the gifted?**

☐ Yes ☐ No ☐ Don't Know

7. **Is there a full-time teacher of the gifted in your school building?**

☐ Yes ☐ No ☐ Don't Know

8. **Is there a part-time teacher of the gifted in your school building?**

☐ Yes ☐ No ☐ Don't Know

9. **Do students in your school building participate in a gifted program in which they are transported to a different school or site?**

☐ Yes ☐ No ☐ Don't Know

10. **Do students in your school go to a resource room (pull-out program) for instruction provided by a teacher of the gifted?**

☐ Yes ☐ No ☐ Don't Know

III. Classroom Issues

Please answer the questions below regarding issues in your classroom.

1. **Which of the following best describes the type of class you teach?**

- ☐ Intact or self-contained class (i.e., the same students all day)
- ☐ Departmentalized arrangement (i.e., teach one or more subjects to different classes)

2. **If you teach an intact class, please skip to question 3 and answer the remaining questions in this section for that class. If you teach in a departmentalized arrangement, please select one (1) class and answer the remaining questions in this section based on that class. Please indicate which class you have selected.**

- ☐ Science
- ☐ Math
- ☐ Other (Specify _____)
- ☐ Social Studies
- ☐ Reading
- ☐ Language Arts
- ☐ Art

3. **What is the enrollment of your class by gender?** (Give number) ____ Boys ____ Girls

4. **Indicate the number of limited English proficient students in your classroom.** _____

5. Indicate the number of students in your classroom for each of the following groups.
   ____ Visually Impaired
   ____ Hearing Impaired
   ____ Physically Handicapped (Muscle Impairment)
   ____ Other Health Impairment (Specify _____)

6. What is the number of students in your class for each of the following ethnic groups? (Give number)
   ____ African-American
   ____ Asian-American/Pacific Islander
   ____ Hispanic-American
   ____ Native-American
   ____ Caucasian-American
   ____ Other

7. What is the number of formally identified gifted students in your classroom?_____.

8. Which of the following measures and/or checklists *do You Use* (or if you don't have a gifted program, would you use) to identify gifted students in your classroom? (Check all that apply)

☐ IQ Tests (Group or Individual)	☐ Teacher Nomination	☐ Creativity Tests
☐ Achievement Tests	☐ Parent Nomination	☐ Don't Know
☐ Grades	☐ Student Self-Nomination	☐ Other, Specify:
☐ Teacher Rating Scales	☐ Student Interview	_____
☐ Student Products/Portfolios	☐ Peer Nomination	_____

9. Are there students in your class you believe are gifted but *have not been formally identified* as such by your district?

   ☐ Yes ☐ No ☐ Don't know

10. Indicate the number of limited English proficient students in your classroom who are formally identified as gifted and also those who may be gifted but are not formally identified as such.

	Formally Identified As Gifted	May be Gifted But Not Formally Identified
	_____	_____

11. Indicate the number of students in your classroom formally identified as gifted and also those who may be gifted but are not formally identified as such for each of the following groups:

	Formally Identified As Gifted	May be Gifted But Not Formally Identified
Visually impaired	_____	_____
Hearing Impaired	_____	_____
Physically Handicapped	_____	_____
Other Health Impairment (specify)	_____	_____

12. How many boys and girls in your classroom have been formally identified as gifted and how many may be gifted but have not been formally identified as such for each of the ethnic groups listed below?

	Formally Identified As Gifted		May be Gifted But Not Formally Identified	
	Boys	Girls	Boys	Girls
African-American	_____	_____	_____	_____
Asian-American/Pacific Islander	_____	_____	_____	_____
Hispanic-America	_____	_____	_____	_____
Native-American	_____	_____	_____	_____
Caucasian-American	_____	_____	_____	_____
Other	_____	_____	_____	_____

IV. Classroom Practices

This section is designed to provide information about the instructional strategies and approaches you use in your classroom. It is very important that the answers you provide reflect actual practices. Please be assured that your individual responses will be held in the strictest confidence.

Above you told us whether you teach an intact class or specific subject(s) (i.e., departmentalized arrangement). If you teach an intact class, please respond to the following items for that class. If you teach in a departmentalized arrangement, please respond to the following items using the same class you selected earlier as your point of reference. PLEASE DO NOT CHANGE CLASSES.

Please read the directions below, check one of the boxes, and then proceed as directed.

[1] **If you have students in your class formally identified as gifted by your district, check box one (1) and respond to items 1-39 for Average AND Gifted students.**

[2] **If you do not have students in your class formally identified as gifted by your district but have students you believe are gifted, check box two (2) and respond to items 1-39 for Average AND Gifted students.**

[3] **If you have neither students formally identified by the district as gifted nor students you believe are gifted, check box three (3) and respond to items 1-39 for Average students only.**

Please use the following response scale based on the academic year to indicate what actually occurs in your classroom. Circle the most appropriate response.

Response Scale
0 - Never
1 - Once a month, or less frequently
2 - A few times a month
3 - A few times a week
4 - Daily
5 - More than once a day

Average Students		Gifted Students
0 1 2 3 4 5	1. Use basic skills worksheets	0 1 2 3 4 5
0 1 2 3 4 5	2. Use enrichment worksheets	0 1 2 3 4 5
0 1 2 3 4 5	3. Assign reading of more advanced level work	0 1 2 3 4 5
0 1 2 3 4 5	4. Use self-directed instructional kits such as S.R.A.	0 1 2 3 4 5
0 1 2 3 4 5	5. Assign reports	0 1 2 3 4 5
0 1 2 3 4 5	6. Assign projects or other work requiring extended time for students to complete	0 1 2 3 4 5
0 1 2 3 4 5	7. Assign book reports	0 1 2 3 4 5
0 1 2 3 4 5	8. Use activities such as puzzles or word searches	0 1 2 3 4 5
0 1 2 3 4 5	9. Give creative or expository writing assignments on topics selected by the teacher	0 1 2 3 4 5
0 1 2 3 4 5	10. Give creative or expository writing assignments on topics selected by the students	0 1 2 3 4 5

Response Scale
0 - Never
1 - Once a month or less frequently
2 - A few times a month
3 - A few times a week
4 - Daily
5 - More than once a day

Average Students							Gifted Students					
0	1	2	3	4	5	11. Make time available for students to pursue self-selected interests	0	1	2	3	4	5
0	1	2	3	4	5	12. Use pretests to determine if students have mastered the material covered in a particular unit or content area	0	1	2	3	4	5
0	1	2	3	4	5	13. Eliminate curricular material that students have mastered	0	1	2	3	4	5
0	1	2	3	4	5	14. Repeat instruction on the coverage of more difficult concepts for some students	0	1	2	3	4	5
0	1	2	3	4	5	15. Substitute different assignments for students who have mastered regular classroom work	0	1	2	3	4	5
0	1	2	3	4	5	16. Modify the instructional format for students who learn better using an alternative approach	0	1	2	3	4	5
0	1	2	3	4	5	17. Encourage students to move around the classroom to work in various locations	0	1	2	3	4	5
0	1	2	3	4	5	18. Allow students to leave the classroom to work in another location, such as the school library or media center	0	1	2	3	4	5
0	1	2	3	4	5	19. Assign different homework based on student ability	0	1	2	3	4	5
0	1	2	3	4	5	20. Use learning centers to reinforce basic skills	0	1	2	3	4	5
0	1	2	3	4	5	21. Use enrichment centers	0	1	2	3	4	5
0	1	2	3	4	5	22. Teach thinking skills in the regular curriculum	0	1	2	3	4	5
0	1	2	3	4	5	23. Teach a unit on a thinking skills, such as critical thinking or creative problem solving	0	1	2	3	4	5
0	1	2	3	4	5	24. Participate in a competitive program focusing on thinking skills/problem solving, such as Future Problem Solving, Odyssey of Mind, etc.	0	1	2	3	4	5
0	1	2	3	4	5	25. Use contracts or management plans to help students organize their independent study projects	0	1	2	3	4	5
0	1	2	3	4	5	26. Provide time within the school day for students to work on their independent study projects	0	1	2	3	4	5
0	1	2	3	4	5	27. Allow students within your classroom to work from a higher grade level textbook	0	1	2	3	4	5
0	1	2	3	4	5	28. Provide a different curricular experience by using a more advanced curriculum unit on a teacher-selected topic	0	1	2	3	4	5

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Response Scale
0 - Never
1 - Once a month or less frequently
2 - A few times a month
3 - A few times a week
4 - Daily
5 - More than once a day

Average Students							Gifted Students					
0	1	2	3	4	5	29. Group students by ability across classrooms at the same grade level	0	1	2	3	4	5
0	1	2	3	4	5	30. Send students to a higher grade level for specific subject area instruction	0	1	2	3	4	5
0	1	2	3	4	5	31. Establish interest groups which enable students to pursue individual or small group interests	0	1	2	3	4	5
0	1	2	3	4	5	32. Consider students' opinion in allocating time for various subjects within your classroom	0	1	2	3	4	5
0	1	2	3	4	5	33. Provide opportunities for students to use programmed or self-instructional materials at their own pace	0	1	2	3	4	5
0	1	2	3	4	5	34. Give assignments that encourage students to organize their own work schedule to complete a long range project	0	1	2	3	4	5
0	1	2	3	4	5	35. Provide questions that encourage reasoning and logical thinking	0	1	2	3	4	5
0	1	2	3	4	5	36. Ask open-ended questions	0	1	2	3	4	5
0	1	2	3	4	5	37. Encourage students to ask higher-level questions	0	1	2	3	4	5
0	1	2	3	4	5	38. Encourage student participation in discussions	0	1	2	3	4	5
0	1	2	3	4	5	39. Use computers	0	1	2	3	4	5

COMMENTS

Please provide any comments you believe will help us in understanding classroom practices within your school.

Thank you very much for your help.
Please return to: S. Brown, The University of Connecticut, Box U-4, Storrs, CT 06269-2004

Appendix B

Distribution of Public School and Private School Samples by State, Region, and Type of Community

Distribution of Public School and Private School Samples by State, Region, and Type of Community

State	Region	Community Type	Public Popul.	Public Sample	Private Popul.	Private Sample
Alabama	south	rural	1,874	34	124	4
Alabama	south	suburb	800	14	60	2
Alabama	south	urban	1,192	22	150	5
Alaska	west	rural	634	11	41	1
Alaska	west	suburb	28	1	3	0
Alaska	west	urban	72	1	10	0
Arizona	west	rural	1,001	18	45	2
Arizona	west	suburb	690	12	40	1
Arizona	west	urban	1,280	23	125	5
Arkansas	south	rural	1,892	34	49	2
Arkansas	south	suburb	305	6	9	0
Arkansas	south	urban	559	10	87	3
California	west	rural	1,895	34	170	6
California	west	suburb	13,193	239	1,928	70
California	west	urban	7,393	134	1,082	39
Colorado	west	rural	1,046	19	61	2
Colorado	west	suburb	982	18	64	2
Colorado	west	urban	1,188	22	130	5
Connecticut	ne	rural	572	10	44	2
Connecticut	ne	suburb	1,368	25	150	5
Connecticut	ne	urban	961	17	108	4
Washington, DC	south	rural	0	0	0	0
Washington, DC	south	suburb	0	0	0	0
Washington, DC	south	urban	436	8	54	2
Delaware	south	rural	222	4	20	1
Delaware	south	suburb	105	2	35	1
Delaware	south	urban	120	2	59	2
Florida	south	rural	1,556	28	144	5
Florida	south	suburb	2,391	43	353	13
Florida	south	urban	3,435	62	706	25
Georgia	south	rural	3,209	58	195	7
Georgia	south	suburb	1,184	21	120	4
Georgia	south	urban	1,368	25	236	9
Hawaii	west	rural	291	5	55	2
Hawaii	west	suburb	375	7	64	2
Hawaii	west	urban	233	4	75	3
Idaho	west	rural	1,078	20	57	2
Idaho	west	suburb	46	1	1	0
Idaho	west	urban	179	3	14	1
Illionis	cent	rural	2,516	46	281	5
Illinois	cent	suburb	4,523	82	726	19
Illinois	cent	urban	2,400	37	658	16
Indiana	cent	rural	2,152	39	166	6
Indiana	cent	suburb	1,774	32	158	6
Indiana	cent	urban	1,951	35	348	13
Iowa	cent	rual	2,133	39	262	9
Iowa	cent	suburb	474	9	49	2
Iowa	cent	urban	758	14	147	5
Kansas	cent	rural	1,742	32	113	4
Kansas	cent	suburb	762	14	73	3
Kansas	cent	urban	484	9	81	3
Kentucky	south	rural	3,005	54	107	4

BEST COPY AVAILABLE

Distribution of Public School and Private School Samples by State, Region, and Type of Community (continued)

State	Region	Community Type	Public Popul.	Public Sample	Private Popul.	Private Sample
Kentucky	south	suburb	440	8	94	3
Kentucky	south	urban	902	16	176	6
Louisiana	south	rural	2,163	39	216	8
Louisiana	south	suburb	679	12	134	5
Louisiana	south	urban	1,273	23	319	12
Maine	ne	rural	1,228	22	55	2
Maine	ne	suburb	175	3	8	0
Maine	ne	urban	206	4	30	1
Maryland	south	rural	566	10	62	2
Maryland	south	suburb	1,766	32	299	11
Maryland	south	urban	873	16	217	8
Massachusetts	ne	rural	962	17	53	2
Massachusetts	ne	suburb	1,949	35	147	5
Massachusetts	ne	urban	1,780	32	365	13
Michigan	cent	rural	2,525	46	286	10
Michigan	cent	subsurb	3,759	58	635	23
Michigan	cent	urban	1,900	34	469	17
Minnesota	cent	rural	1,996	36	395	14
Minnesota	cent	suburb	793	14	101	4
Minnesota	cent	urban	1,162	21	304	11
Mississippi	south	rural	1,799	33	221	8
Mississippi	south	suburb	104	2	14	1
Mississippi	south	uban	332	6	59	2
Missouri	cent	rual	1,937	35	176	6
Missouri	cent	suburb	1,334	24	207	7
Missouri	cent	urban	1,444	26	336	12
Montana	west	rural	887	16	53	2
Montana	west	susburb	40	1	3	0
Montana	west	urban	200	4	13	0
N. Carolina	south	rural	3,458	63	185	7
N. Carolina	south	suburb	1,025	19	46	2
N. Carolina	south	urban	1,549	28	188	7
N. Dakota	cent	rural	511	9	42	2
N. Dakota	cent	suburb	96	2	7	0
N. Dakota	cent	urban	169	3	24	1
Nebraska	cent	rural	1,300	24	166	6
Nebraska	cent	suburb	124	2	14	1
Nebraska	cent	urban	669	12	169	6
Nevada	west	rural	269	5	5	0
Nevada	west	suburb	231	4	4	0
Nevada	west	urban	610	11	38	1
New Hampshire	ne	rual	816	15	52	2
New Hampshire	ne	suburb	149	3	20	1
New Hampshire	ne	urban	247	4	19	1
New Jersey	ne	rural	1,578	29	170	6
New Jersey	ne	suburb	3,479	63	536	19
New Jersey	ne	urban	1,030	19	198	7
New Mexico	west	rural	1,177	21	83	3
New Mexico	west	suburb	87	2	2	0
New Mexico	west	urban	439	8	56	2
New York	ne	rural	2,405	44	238	9
New York	ne	suburb	5,127	93	666	24

Distribution of Public School and Private School Samples by State, Region, and Type of Community (continued)

State	Region	Community Type	Public Popul.	Public Sample	Private Popul.	Private Sample
New York	ne	urban	4,154	75	1,160	42
Ohio	cent	rural	2,815	51	209	8
Ohio	cent	suburb	2,859	52	314	11
Ohio	cent	urban	4,093	74	864	31
Oklahoma	south	rual	1,985	36	23	1
Oklahoma	south	suburb	889	16	8	0
Oklahoma	south	urban	820	15	100	4
Oregon	west	rural	1,222	22	73	3
Oregon	west	suburb	1,042	19	73	3
Oregon	west	urban	996	18	110	4
Pennsylvania	ne	rural	2,222	40	254	9
Pennsylvania	ne	suburb	4,235	77	880	32
Pennsylvania	ne	urban	2,217	40	780	28
Rhode Island	ne	rural	115	2	14	1
Rhode Island	ne	suburb	271	5	33	1
Rhode Island	ne	urban	450	8	65	2
S. Carolina	south	rural	1,765	32	145	5
S. Carolina	south	suburb	1,118	20	84	3
S. Carolina	south	urban	630	11	142	5
S. Dakota	cent	rural	805	15	62	2
S. Dakota	cent	suburb	31	1	2	0
S. Dakota	cent	urban	59	1	20	1
Tennessee	south	rural	2,719	49	81	3
Tennessee	south	suburb	677	12	44	2
Tennessee	south	urban	1,346	24	256	9
Texas	south	rural	5,012	91	136	5
Texas	south	suburb	5,732	104	229	8
Texas	south	urban	8,346	151	875	32
Utah	west	rural	712	13	3	0
Utah	west	suburb	950	17	8	0
Utah	west	urban	859	16	30	1
Vermont	ne	rural	753	14	30	1
Vermont	ne	suburb	68	1	1	0
Vermont	ne	urban	27	0	13	0
Viginia	south	rural	1,986	36	107	4
Virginia	south	suburb	1,648	30	172	6
Virginia	south	urban	1,200	22	218	8
W. Virginia	south	rural	1,515	27	55	2
W. Virginia	south	suburb	315	6	13	0
W. Virginia	south	urban	188	3	43	2
Washington	south	rural	1,034	19	47	2
Washington	south	suburb	2,203	40	168	6
Washington	south	urban	1,418	26	208	8
Wisconsin	cent	rural	2,036	37	481	17
Wisconsin	cent	suburb	1,359	25	331	12
Wisconsin	cent	uban	1,799	33	504	18
Wyoming	west	rural	656	12	20	1
Wyoming	west	suburb	14	0	0	0
Wyoming	west	urban	64	1	4	0
			220,975	3,993	27,706	980

Appendix C

Distribution of Special Population Samples by State, Region, and Type of Community

Distribution of Special Population Samples by State, Region, and Type of Community

URBAN DISTRICTS

State	Community Type	African American	Native American	Asian American	Hispanic American
Alabama	urban	11	0	0	0
Alaska	urban	0	0	0	0
Arizona	urban	1	0	0	15
Arkansas	urban	5	0	0	0
California	urban	6	0	186	94
Colorado	urban	0	0	0	12
Connecticut	urban	6	0	0	6
Delaware	urban	0	0	0	0
Washington, DC	urban	5	0	0	0
Florida	urban	25	0	0	21
Georgia	urban	18	0	0	0
Hawaii	urban	0	0	127	0
Idaho	urban	0	0	0	0
Illinois	urban	23	0	0	0
Indiana	urban	8	0	0	1
Iowa	urban	0	0	0	0
Kansas	urban	0	0	0	0
Kentucky	urban	0	0	0	0
Louisiana	urban	14	0	0	0
Maine	urban	0	0	0	0
Maryland	urban	6	0	0	0
Massachusetts	urban	4	0	0	1
Michigan	urban	13	0	0	0
Minnesota	urban	0	0	0	0
Mississippi	urban	3	0	0	0
Missouri	urban	8	0	0	0
Montana	urban	0	0	0	0
Nebraska	urban	0	0	0	0
Nevada	urban	0	0	0	0
New Hampshire	urban	0	0	0	0
New Jersey	urban	10	0	0	7
New Mexico	urban	0	0	0	9
New York	urban	31	0	0	32
N. Carolina	urban	17	0	0	0
N. Dakota	urban	0	0	0	0
Ohio	urban	31	0	0	0
Oklahoma	urban	3	0	0	0
Oregon	urban	0	0	0	0
Pennsylvania	urban	15	0	0	0
Rhode Island	urban	0	0	0	0
S. Carolina	urban	6	0	0	0
S. Dakota	urban	0	0	0	0
Tennessee	urban	13	0	0	0
Texas	urban	22	0	0	88
Utah	urban	0	0	0	0
Vermont	urban	0	0	0	0
Virginia	urban	13	0	0	0
Washington	urban	0	0	0	0
W. Virginia	urban	0	0	0	0
Wisconsin	urban	8	0	0	0
Wyoming	urban	0	0	0	0
	Subtotal	326	0	313	286

Distribution of Special Population Samples by State, Region, and Type of Community

SUBURBAN DISTRICTS

State	Community Type	African American	Native American	Asian American	Hispanic American
Alabama	suburb	4	0	0	0
Alaska	suburb	0	0	0	0
Arizona	suburb	0	8	0	4
Arkansas	suburb	1	0	0	0
California	suburb	11	6	26	135
Colorado	suburb	0	0	0	2
Connecticut	suburb	0	0	0	0
Delaware	suburb	1	0	0	0
Washington, DC	suburb	0	0	0	0
Florida	suburb	6	0	0	0
Georgia	suburb	6	0	0	0
Hawaii	suburb	0	0	120	0
Idaho	suburb	0	0	0	0
Illinois	suburb	7	0	0	1
Indiana	suburb	0	0	0	0
Iowa	suburb	0	0	0	0
Kansas	suburb	2	0	0	0
Kentucky	suburb	0	0	0	0
Louisiana	suburb	2	0	0	0
Maine	suburb	0	0	0	0
Maryland	suburb	7	0	0	0
Massachusetts	suburb	0	0	0	0
Michigan	suburb	2	0	0	0
Minnesota	suburb	0	0	0	0
Mississippi	suburb	1	0	0	0
Missouri	suburb	1	0	0	0
Montana	suburb	0	0	0	0
Nebraska	suburb	0	0	0	0
Nevada	suburb	0	0	0	0
New Hampshire	suburb	0	0	0	8
New Mexico	suburb	0	0	0	2
New York	suburb	5	0	0	1
N. Carolina	suburb	7	0	0	0
N. Dakota	suburb	0	0	0	0
Ohio	suburb	0	0	0	0
Oklahoma	suburb	0	37	0	0
Oregon	suburb	0	0	0	1
Pennsylvania	suburb	2	0	0	0
Rhode Island	suburb	0	0	0	0
S. Carolina	suburb	8	0	0	0
S. Dakota	suburb	0	0	0	0
Tennessee	suburb	2	0	0	0
Texas	suburb	4	0	0	25
Utah	suburb	0	0	0	0
Vermont	suburb	0	0	0	0
Virginia	suburb	4	0	0	0
Washington	suburb	0	5	0	1
W. Virginia	suburb	0	0	0	0
Wisconsin	suburb	0	0	0	0
Wyoming	suburb	0	0	0	0
	Subtotal	93	56	146	188

Distribution of Special Population Samples by State, Region, and Type of Community

RURAL DISTRICTS

State	Community Type	African American	Native American	Asian American	Hispanic American
Alabama	rural	13	0	0	0
Alaska	rural	0	68	0	0
Arizona	rural	0	75	0	9
Arkansas	rural	8	0	0	0
California	rural	0	11	0	14
Colorado	rural	0	4	0	6
Connecticut	rural	0	0	0	0
Delawae	rural	1	0	0	0
Washington, DC	rural	0	0	0	0
Florida	rural	3	0	0	0
Georgia	rural	24	0	0	0
Hawaii	rural	0	0	128	0
Idaho	rural	0	2	0	1
Illinois	rural	1	0	0	1
Indiana	rural	0	0	0	0
Iowa	rural	0	0	0	0
Kansas	rural	0	0	0	1
Kentucky	rural	1	0	0	0
Louisiana	rural	22	0	0	0
Maine	rural	0	0	0	0
Maryland	rural	4	0	0	0
Massachusetts	rural	0	0	0	0
Michigan	rural	1	3	0	0
Minnesota	rural	0	4	0	0
Mississippi	rural	19	0	0	0
Missouri	rural	1	0	0	0
Montana	rural	0	34	0	1
Nebraska	rural	0	6	0	1
Nevada	rural	0	0	0	0
new Hampshire	rural	0	0	0	0
New Jersey	rural	2	0	0	1
New Mexico	rural	0	105	0	21
New York	rural	0	0	0	0
N. Carolina	rural	27	71	0	0
N. Dakota	rural	0	9	0	0
Ohio	rural	0	0	0	0
Oklahoma	rural	1	68	0	1
Oregon	rural	0	8	0	1
Pennsylvania	rural	0	0	0	0
Rhode Island	rural	0	0	0	0
S. Carolina	rural	20	0	0	0
S. Dakota	rural	0	25	0	0
Tennessee	rural	5	0	0	0
Texas	rural	10	2	0	48
Utah	rural	0	10	0	0
Vermont	rural	0	0	0	0
Virginia	rural	9	0	0	0
Washington	rural	0	7	0	2
W. Virginia	rural	0	0	0	0
Wisconsin	rural	0	6	0	0
Wyoming	rural	0	6	0	0
Subtotal		174	524	128	108
	SAMPLE TOTALS	**592**	**580**	**587**	**582**

Appendix D

Letters Sent to Respondents

THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED

NRC G/T

Joseph S. Renzulli
Director

E. Jean Gubbins
Assistant Director

University of Connecticut
231 Glenbrook Road
Storrs Hall, Box U-7
Storrs, CT 06269-2007
TEL (203) 486-5279
FAX (203) 486-2900

Francis X. Archambault
Associate Director

1785
The University of Georgia
Mary M. Frasier
Associate Director

Carolyn M. Callahan
Associate Director

Robert J. Sternberg
Associate Director

January, 1991

Dear Classroom Teacher:

In June The University of Connecticut received a grant from the United States Department of Education to investigate the instructional practices used with gifted and average students. In one portion of this study we are asking a random sample of teachers in various parts of the country to complete a questionnaire. You have been selected to participate in this research because you are listed in a national database as a third or fourth grade teacher. We hope you will be able to help us by completing the questionnaire you will be receiving within the next two weeks.

It is important that we include in our sample only teachers who work with third and fourth grade students. If you do not teach third or fourth graders, please give this letter and the questionnaire when it arrives to a teacher in your school who does teach at this grade level. Field trials have shown that it takes about 15 minutes to complete the questionnaire. We hope you or your colleague will set aside this time to provide information which will be most helpful in designing instruction for elementary school students.

Please be assured that your responses will be held in the strictest confidence and that results will be reported for groups of respondents only, not for individuals, schools, or school districts.

Thank you in advance for your help, and best wishes for a successful remainder of the school year.

Yours truly,

Francis X. Archambault, Jr., Ph.D.
Associate Director
National Research Center on the Gifted and Talented

Funded by the Office of Educational Research and Improvement, United States Department of Education

NRC G/T

THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED

Joseph S. Renzulli
Director

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Francis X. Archambault
Associate Director

1785
The University of Georgia
Mary M. Frasier
Associate Director

Carolyn M. Callahan
Associate Director

Robert J. Sternberg
Associate Director

January 1991

Dear Classroom Teacher:

About a week ago I sent you a letter asking for help in a study we are conducting for the United States Department of Education. In this study we are asking a national sample of 7,000 teachers to complete a questionnaire concerning the instructional practices they use with gifted and average students. You have been randomly selected to participate because you are listed in a national database as a third or fourth grade teacher.

It is important that we include in our sample only teachers who work with third and fourth grade students. If you do not teach third or fourth graders, please give this letter and the enclosed questionnaire to a teacher in your school who does teach at this grade level. Field trials have shown that it takes about 15 minutes to complete the questionnaire. We hope you or your colleague will set aside this time to provide information which will be most helpful in designing instruction for elementary school students.

We ask that you complete the survey within the next week or so and return it in the stamped, self-addressed envelope. Please respond to each item as accurately and completely as possible. For those items where you must choose a response, select the best answer from among the alternatives provided.

Please be assured that your responses will be held in the strictest confidence and that results will be reported for groups of respondents only, not for individual schools or districts. We have numbered the questionnaires so we can follow-up non-respondents.

Thank you for taking the time to read this letter and respond to the questionnaire.

Yours truly,

Francis X. Archambault, Jr., Ph.D.
Associate Director
National Research Center on the Gifted and Talented

Funded by the Office of Educational Research and Improvement, United States Department of Education

NRC G/T

THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED

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The University of Georgia
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Carolyn M. Callahan
Associate Director

Robert J. Sternberg
Associate Director

January 31, 1991

Dear Teacher:

About three weeks ago you received a survey pertaining to the instructional practices used with gifted and average students. We have not yet received your completed questionnaire. Since we believe this research is so important, we would like to ask again for your help. The survey takes only fifteen minutes to complete and your responses will be held in the strictest confidence. The results of the survey will be reported for groups of respondents only, not specific teachers, schools, or school districts.

Enclosed you will find another copy of the questionnaire as well as a postage-paid return envelope. Please take a little time to respond to the questionnaire items as accurately and completely as possible. For those items where you must choose a response, select the best answer from among the alternatives provided. Your response is important to us.

As noted in my earlier letter, you have been randomly selected to participate in this study because you are listed in a national database as a third or fourth grade teacher. If you do not teach third or fourth graders, please give this letter and the enclosed questionnaire to a teacher in your school who does teach at this grade level.

We remind you that this study is being conducted by a team of researchers at The University of Connecticut who are part of the National Research Center on the Gifted and Talented. Funding for the research is provided by the United States Department of Education.

Thank you for your support.

Yours truly,

Francis X. Archambault, Jr., Ph.D.
Associate Director
NRC/GT

FXA/drg
enclosures

Funded by the Office of Educational Research and Improvement, United States Department of Education

Appendix E

Additional Item Level Means and Standard Deviations for the CPQ

Means and Standard Deviations of Responses to the Classroom Practices Items for Gifted and Average Students - Public School Sample - Perceived Gifted [1]

Classroom Practices Item	Gifted		Average		Difference[2]	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
1 Use basic skills worksheets	2.95	1.28	3.11	1.17	-0.16	0.60
2 Use enrichment worksheets	2.71	1.15	2.26	1.07	0.45	0.79
3 Assign advanced level reading	2.82	1.30	1.90	1.27	0.92	1.12
4 Use self-instructional kits	1.15	1.54	0.97	1.38	0.18	0.66
5 Assign reports	1.78	1.03	1.51	0.94	0.27	0.62
6 Assign projects	1.91	1.05	1.61	0.97	0.30	0.63
7 Assign book reports	1.61	1.05	1.48	0.98	0.13	0.46
8 Use puzzles or word searches	2.26	1.04	2.18	0.98	0.08	0.46
9 Creative writing; teacher's topic	2.46	1.05	2.34	1.04	0.12	0.48
10 Creative writing; student's topic	2.08	1.17	1.95	1.17	0.13	0.50
11 Time for self-selected interests	2.66	1.32	2.37	1.31	0.29	0.75
12 Pretests to determine mastery	1.61	1.11	1.54	1.09	0.07	0.51
13 Eliminate material students master	2.31	1.38	2.10	1.34	0.21	0.74
14 Repeat difficult concepts for some	2.65	1.34	3.50	1.03	-0.85	1.21
15 Different work students mastering	2.60	1.35	2.15	1.33	0.45	0.93
16 Alternative instructional formats	2.90	1.36	2.98	1.30	-0.08	0.87
17 Various locations around classroom	3.33	1.37	3.27	1.39	0.06	0.54
18 Work in location other than class	1.90	1.52	1.69	1.46	0.21	0.72
19 Different homework based on ability	1.98	1.53	1.85	1.53	0.13	0.84
20 Use learning centers for basic skills	2.00	1.66	2.03	1.61	-0.03	0.67
21 Use enrichment centers	2.18	1.66	2.05	1.61	0.13	0.65
22 Thinking skills in regular curriculum	3.55	1.12	3.52	1.12	0.03	0.54
23 Unit on thinking skills	2.15	1.47	2.06	1.43	0.09	0.48
24 Competitive thinking skills program	0.67	1.23	0.55	1.12	0.12	0.54
25 Contracts for independent study	1.28	1.48	1.25	1.47	0.03	0.60
26 Time for independent study projects	2.23	1.51	2.08	1.51	0.15	0.58
27 Work from higher grade textbook	1.60	1.75	1.07	1.53	0.53	1.19
28 More advanced curriculum unit	1.55	1.40	1.25	1.27	0.30	0.77
29 Group by ability across classrooms	1.84	1.90	1.84	1.89	0.00	0.64
30 Higher grade for specific instruction	0.56	1.35	0.33	1.08	0.23	0.86
31 Establish interest groups	1.37	1.30	1.27	1.27	0.10	0.52
32 Student's opinion in allocating time	2.08	1.50	2.02	1.50	0.06	0.43
33 Programmed materials	2.27	1.55	2.08	1.51	0.19	0.64
34 Encourage long-range projects	1.81	1.37	1.62	1.34	0.19	0.56
35 Questions to encourage reasoning	3.83	1.02	3.76	1.09	0.07	0.53
36 Ask open-ended questions	3.97	1.04	3.90	1.08	0.07	0.45
37 Encourage higher-level questions	3.93	1.09	3.84	1.12	0.09	0.47
38 Encourage discussions	4.58	0.69	4.56	0.68	0.02	0.46
39 Use computers	2.96	1.45	2.91	1.45	0.05	0.40

[1] Based on classrooms with students whom the teacher perceives to be gifted but without formally identified gifted students

[2] The difference score is calculated by subtracting the respondent's average score and gifted score. Means and standard deviations are calculated from these difference scores. Difference scores are subject to rounding error.

Means and Standard Deviations of Responses to the Classroom Practices Items for Gifted and Average Students - Private School Sample - Formally Identified Gifted [1]

Classroom Practices Item	Gifted		Average		Difference[2]	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
1 Use basic skills worksheets	3.33	1.13	3.41	1.08	-0.08	0.39
2 Use enrichment worksheets	2.83	0.97	2.27	0.97	0.56	0.82
3 Assign advanced level reading	2.66	1.40	1.77	1.32	0.89	1.07
4 Use self-instructional kits	1.33	1.57	1.13	1.43	0.20	0.60
5 Assign reports	1.70	0.89	1.40	0.75	0.30	0.60
6 Assign projects	1.72	0.77	1.51	0.73	0.21	0.47
7 Assign book reports	1.43	0.74	1.32	0.69	0.11	0.39
8 Use puzzles or word searches	2.33	0.97	2.19	0.93	0.14	0.45
9 Creative writing; teacher's topic	2.27	0.98	2.18	0.97	0.09	0.39
10 Creative writing; student's topic	1.80	1.10	1.64	1.08	0.16	0.43
11 Time for self-selected interests	2.69	1.30	2.40	1.29	0.28	0.69
12 Pretests to determine mastery	1.48	1.06	1.40	1.08	0.08	0.36
13 Eliminate material students master	2.08	1.29	1.79	1.25	0.28	0.66
14 Repeat difficult concepts for some	2.25	1.30	3.18	1.04	-0.93	1.20
15 Different work students mastering	2.15	1.31	1.61	1.27	0.54	0.79
16 Alternative instructional formats	2.56	1.35	2.59	1.33	-0.03	0.92
17 Various locations around classroom	3.09	1.44	3.04	1.48	0.05	0.47
18 Work in location other than class	1.74	1.37	1.58	1.29	0.16	0.54
19 Different homework based on ability	1.60	1.45	1.46	1.38	0.14	0.90
20 Use learning centers for basic skills	2.08	1.69	2.06	1.70	0.02	0.31
21 Use enrichment centers	1.97	1.67	1.81	1.64	0.16	0.54
22 Thinking skills in regular curriculum	3.49	1.14	3.44	1.16	0.04	0.33
23 Unit on thinking skills	1.67	1.34	1.61	1.32	0.06	0.33
24 Competitive thinking skills program	0.45	0.93	0.39	0.86	0.06	0.31
25 Contracts for independent study	0.99	1.37	0.96	1.35	0.03	0.30
26 Time for independent study projects	1.90	1.46	1.80	1.43	0.10	0.39
27 Work from higher grade textbook	1.47	1.67	1.05	1.51	0.42	1.02
28 More advanced curriculum unit	1.36	1.33	1.15	1.27	0.21	0.60
29 Group by ability across classrooms	1.50	1.76	1.53	1.80	-0.03	0.40
30 Higher grade for specific instruction	0.57	1.34	0.31	1.05	0.26	0.91
31 Establish interest groups	1.06	1.09	0.98	1.08	0.08	0.35
32 Student's opinion in allocating time	1.80	1.34	1.78	1.33	0.02	0.14
33 Programmed materials	2.16	1.54	1.93	1.49	0.23	0.65
34 Encourage long-range projects	1.71	1.18	1.59	1.18	0.12	0.48
35 Questions to encourage reasoning	3.59	1.07	3.48	1.18	0.11	0.38
36 Ask open-ended questions	3.92	0.98	3.84	1.04	0.08	0.29
37 Encourage higher-level questions	3.88	1.00	3.76	1.09	0.12	0.42
38 Encourage discussions	4.63	0.56	4.64	0.56	-0.01	0.08
39 Use computers	2.77	1.39	2.72	1.37	0.05	0.33

[1] Based on classrooms with formally identified gifted students.

[2] The difference score is calculated by subtracting the respondent's average score and gifted score. Means and standard deviations are calculated from these difference scores. Difference scores are subject to rounding error.

Means and Standard Deviations of Responses to the Classroom Practices Items for Gifted and Average Students - Native-American Sample - Perceived Gifted [1]

Classroom Practices Item	Gifted		Average		Difference [2]	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
1 Use basic skills worksheets	3.22	1.14	3.36	1.00	-0.15	0.58
2 Use enrichment worksheets	2.76	1.14	2.42	1.12	0.34	0.79
3 Assign advanced level reading	2.89	1.13	1.95	1.22	0.94	0.92
4 Use self-instructional kits	1.12	1.56	0.99	1.44	0.13	0.71
5 Assign reports	1.74	0.96	1.32	0.85	0.41	0.65
6 Assign projects	1.86	1.19	1.39	1.08	0.47	0.56
7 Assign book reports	1.65	1.13	1.43	1.06	0.22	0.54
8 Use puzzles or word searches	2.63	0.95	2.43	0.92	0.21	0.51
9 Creative writing; teacher's topic	2.55	0.88	2.39	0.87	0.16	0.59
10 Creative writing; student's topic	2.21	1.11	2.02	1.13	0.19	0.55
11 Time for self-selected interests	2.88	1.28	2.33	1.29	0.55	0.98
12 Pretests to determine mastery	1.75	1.23	1.62	1.20	0.13	0.49
13 Eliminate material students master	2.15	1.44	1.80	1.29	0.35	0.75
14 Repeat difficult concepts for some	2.55	1.29	3.45	0.93	-0.91	1.06
15 Different work students mastering	2.71	1.43	2.12	1.32	0.59	0.98
16 Alternative instructional formats	3.06	1.30	3.02	1.30	0.05	0.90
17 Various locations around classroom	3.33	1.44	3.28	1.42	0.06	0.54
18 Work in location other than class	1.54	1.45	1.13	1.24	0.41	0.81
19 Different homework based on ability	2.36	1.45	2.17	1.54	0.19	1.06
20 Use learning centers for basic skills	2.06	1.68	2.02	1.63	0.04	0.55
21 Use enrichment centers	2.12	1.77	1.93	1.65	0.19	0.58
22 Thinking skills in regular curriculum	3.41	1.04	3.37	1.02	0.04	0.63
23 Unit on thinking skills	2.31	1.33	2.12	1.23	0.19	0.47
24 Competitive thinking skills program	0.74	1.35	0.58	1.19	0.16	0.59
25 Contracts for independent study	1.02	1.40	0.93	1.32	0.09	0.54
26 Time for independent study projects	2.21	1.59	2.02	1.54	0.19	0.58
27 Work from higher grade textbook	2.06	1.87	1.04	1.55	1.01	1.49
28 More advanced curriculum unit	1.76	1.45	1.26	1.31	0.50	0.95
29 Group by ability across classrooms	2.15	1.79	2.21	1.78	-0.06	0.81
30 Higher grade for specific instruction	0.84	1.59	0.45	1.17	0.39	1.17
31 Establish interest groups	1.28	1.32	1.19	1.23	0.09	0.61
32 Student's opinion in allocating time	2.09	1.47	2.03	1.44	0.06	0.51
33 Programmed materials	2.23	1.57	1.94	1.51	0.29	0.71
34 Encourage long-range projects	1.51	1.27	1.27	1.20	0.24	0.58
35 Questions to encourage reasoning	3.62	0.92	3.56	0.88	0.06	0.61
36 Ask open-ended questions	3.73	0.96	3.71	0.90	0.01	0.55
37 Encourage higher-level questions	3.64	1.02	3.56	0.91	0.09	0.68
38 Encourage discussions	4.43	0.88	4.46	0.67	-0.03	0.54
39 Use computers	3.16	1.30	3.16	1.22	0.00	0.42

[1] Based on classrooms with students whom the teacher perceives to be gifted but without formally identified gifted students

[2] The difference score is calculated by subtracting the respondent's average score and gifted score. Means and standard deviations are calculated from these difference scores. Difference scores are subject to rounding error.

Means and Standard Deviations of Responses to the Classroom Practices Items for Gifted and Average Students - African-American Sample - Perceived Gifted [1]

Classroom Practices Item	Gifted		Average		Difference [2]	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
1 Use basic skills worksheets	2.97	1.36	3.17	1.15	-0.20	0.72
2 Use enrichment worksheets	3.00	1.12	2.36	0.93	0.64	0.82
3 Assign advanced level reading	2.91	1.40	1.56	1.11	1.35	1.39
4 Use self-instructional kits	1.19	1.62	0.97	1.36	0.22	0.98
5 Assign reports	1.89	1.21	1.60	1.09	0.29	0.52
6 Assign projects	1.94	1.26	1.63	1.09	0.31	0.53
7 Assign book reports	1.68	1.04	1.50	0.93	0.18	0.39
8 Use puzzles or word searches	2.03	1.22	1.94	1.14	0.09	0.45
9 Creative writing; teacher's topic	2.49	1.15	2.39	1.20	0.09	0.72
10 Creative writing; student's topic	2.29	1.29	2.03	1.24	0.27	0.51
11 Time for self-selected interests	3.17	1.36	2.74	1.52	0.43	0.85
12 Pretests to determine mastery	1.53	1.40	1.41	1.33	0.12	0.59
13 Eliminate material students master	2.36	1.48	2.09	1.36	0.27	0.63
14 Repeat difficult concepts for some	2.91	1.49	3.79	0.98	-0.88	1.34
15 Different work students mastering	2.83	1.52	2.29	1.60	0.55	0.92
16 Alternative instructional formats	3.21	1.47	3.06	1.44	0.15	0.97
17 Various locations around classroom	3.74	1.01	3.54	1.22	0.20	0.68
18 Work in location other than class	1.74	1.77	1.51	1.70	0.23	0.55
19 Different homework based on ability	1.77	1.61	1.57	1.61	0.20	0.53
20 Use learning centers for basic skills	2.91	1.73	2.97	1.71	-0.06	0.74
21 Use enrichment centers	2.88	1.81	2.74	1.83	0.15	0.36
22 Thinking skills in regular curriculum	3.60	1.12	3.51	1.12	0.09	0.51
23 Unit on thinking skills	2.57	1.69	2.49	1.60	0.09	0.37
24 Competitive thinking skills program	0.54	1.01	0.37	0.81	0.17	0.51
25 Contracts for independent study	1.63	1.77	1.57	1.75	0.06	0.34
26 Time for independent study projects	2.60	1.67	2.49	1.72	0.11	0.40
27 Work from higher grade textbook	1.47	1.78	0.88	1.43	0.59	1.31
28 More advanced curriculum unit	1.88	1.57	1.26	1.46	0.62	1.02
29 Group by ability across classrooms	2.00	2.09	1.89	2.04	0.11	0.87
30 Higher grade for specific instruction	0.24	0.94	0.09	0.38	0.15	0.87
31 Establish interest groups	1.79	1.77	1.65	1.76	0.15	0.44
32 Student's opinion in allocating time	2.15	1.56	2.03	1.59	0.12	0.54
33 Programmed materials	2.47	1.83	2.29	1.78	0.18	0.58
34 Encourage long-range projects	1.85	1.46	1.71	1.47	0.15	0.36
35 Questions to encourage reasoning	3.86	1.09	3.86	1.09	0.00	1.03
36 Ask open-ended questions	4.17	1.01	4.03	1.22	0.14	0.60
37 Encourage higher-level questions	4.22	0.87	4.22	0.87	0.00	0.00
38 Encourage discussions	4.76	0.50	4.74	0.51	0.02	0.17
39 Use computers	2.38	1.78	2.26	1.71	0.12	0.41

[1] Based on classrooms with students whom the teacher perceives to be gifted but without formally identified gifted students

[2] The difference score is calculated by subtracting the respondent's average score and gifted score. Means and standard deviations are calculated from these difference scores. Difference scores are subject to rounding error.

Means and Standard Deviation of Responses to the Classroom Practices Items for Gifted and Talented Students - Asian-American Sample - Perceived Gifted [1]

Classroom Practices Item	Gifted		Average		Difference [2]	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
1 Use basic skills worksheets	2.57	1.01	2.57	1.01	0.00	0.00
2 Use enrichment worksheets	2.48	1.12	2.24	0.95	0.24	0.51
3 Assign advanced level reading	2.96	1.29	2.15	1.20	0.81	0.88
4 Use self-instructional kits	1.47	1.80	1.33	1.63	0.13	0.35
5 Assign reports	2.00	0.98	1.77	0.90	0.23	0.50
6 Assign projects	1.83	0.70	1.70	0.75	0.13	0.35
7 Assign book reports	1.77	0.82	1.73	0.87	0.03	0.32
8 Use puzzles or word searches	1.90	1.01	1.90	1.01	0.00	0.00
9 Creative writing; teacher's topic	2.97	1.00	2.93	1.08	0.03	0.18
10 Creative writing; student's topic	2.13	1.41	2.10	1.37	0.03	0.18
11 Time for self-selected interests	2.74	1.37	2.45	1.36	0.29	0.64
12 Pretests to determine mastery	1.67	0.96	1.63	1.00	0.03	0.41
13 Eliminate material students master	2.36	1.54	2.29	1.58	0.07	0.26
14 Repeat difficult concepts for some	2.97	1.38	3.42	1.20	-0.45	0.81
15 Different work students mastering	2.57	1.25	2.40	1.22	0.17	0.46
16 Alternative instructional formats	3.07	1.31	3.10	1.35	-0.03	0.57
17 Various locations around classroom	3.68	1.05	3.52	1.06	0.16	0.37
18 Work in location other than class	1.80	1.58	1.73	1.53	0.07	0.25
19 Different homework based on ability	2.26	1.57	2.23	1.61	0.03	0.48
20 Use learning centers for basic skills	2.13	1.61	2.10	1.60	0.03	0.18
21 Use enrichment centers	2.16	1.64	2.06	1.65	0.10	0.40
22 Thinking skills in regular curriculum	3.84	1.10	3.81	1.08	0.03	0.18
23 Unit on thinking skills	2.87	1.20	2.77	1.20	0.10	0.40
24 Competitive thinking skills program	1.03	1.43	1.03	1.43	0.00	0.00
25 Contracts for independent study	1.16	1.39	1.16	1.39	0.00	0.00
26 Time for independent study projects	2.33	1.65	2.27	1.68	0.07	0.25
27 Work from higher grade textbook	1.97	1.87	1.65	1.85	0.32	0.83
28 More advanced curriculum unit	1.94	1.65	1.61	1.54	0.32	0.83
29 Group by ability across classrooms	1.67	1.94	1.67	1.86	0.00	0.26
30 Higher grade for specific instruction	0.55	1.30	0.28	1.00	0.28	0.92
31 Establish interest groups	1.52	1.12	1.61	1.23	-0.10	0.94
32 Student's opinion in allocating time	2.03	1.64	2.00	1.63	0.03	0.18
33 Programmed materials	2.35	1.62	2.19	1.47	0.16	0.78
34 Encourage long-range projects	1.90	1.58	1.74	1.55	0.16	0.69
35 Questions to encourage reasoning	3.94	0.85	3.94	0.81	0.00	0.26
36 Ask open-ended questions	3.90	1.04	3.90	0.98	0.00	0.26
37 Encourage higher-level questions	4.19	0.91	4.16	0.90	0.03	0.18
38 Encourage discussions	4.68	0.54	4.68	0.54	0.00	0.00
39 Use computers	3.32	1.30	3.29	1.30	0.03	0.18

[1] Based on classrooms with students whom the teacher perceives to be gifted but without formally identified gifted students

[2] The difference score is calculated by subtracting the respondent's average score and gifted score. Means and standard deviations are calculated from these difference scores. Difference scores are subject to rounding error.

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Means and Standard Deviations of Responses to the Classroom Practices Items for Gifted and Average Students - Hispanic-American Sample - Perceived Gifted [1]

Classroom Practices Item	Gifted		Average		Difference [2]	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
1 Use basic skills worksheets	2.28	1.44	2.58	1.28	-0.30	0.86
2 Use enrichment worksheets	2.31	1.39	1.93	1.30	0.38	0.85
3 Assign advanced level reading	2.67	1.43	1.86	1.12	0.81	0.97
4 Use self-instructional kits	1.31	1.73	0.98	1.51	0.33	0.79
5 Assign reports	1.63	1.18	1.42	1.16	0.21	0.56
6 Assign projects	1.91	1.12	1.67	1.18	0.24	0.76
7 Assign book reports	1.60	1.21	1.45	1.13	0.15	0.52
8 Use puzzles or word searches	2.19	0.93	2.09	0.90	0.09	0.43
9 Creative writing; teacher's topic	2.47	1.18	2.37	1.24	0.09	0.43
10 Creative writing; student's topic	1.88	1.28	1.86	1.32	0.02	0.64
11 Time for self-selected interests	2.53	1.40	2.38	1.47	0.15	1.08
12 Pretests to determine mastery	1.38	1.07	1.62	1.13	-0.23	0.87
13 Eliminate material students master	2.48	1.61	2.41	1.52	0.07	0.95
14 Repeat difficult concepts for some	2.52	1.62	3.35	1.30	-0.83	1.39
15 Different work students mastering	2.85	1.34	2.51	1.27	0.34	0.89
16 Alternative instructional formats	2.70	1.46	2.81	1.41	-0.11	1.01
17 Various locations around classroom	3.18	1.51	3.11	1.45	0.06	0.76
18 Work in location other than class	1.44	1.57	1.37	1.53	0.07	1.00
19 Different homework based on ability	1.92	1.65	1.64	1.65	0.28	0.93
20 Use learning centers for basic skills	1.83	1.65	2.02	1.61	-0.19	0.83
21 Use enrichment centers	1.98	1.56	2.07	1.53	-0.09	0.69
22 Thinking skills in regular curriculum	3.48	1.15	3.35	1.29	0.13	0.45
23 Unit on thinking skills	2.33	1.54	2.13	1.57	0.20	0.58
24 Competitive thinking skills program	0.65	1.30	0.57	1.24	0.09	0.51
25 Contracts for independent study	1.28	1.66	1.22	1.66	0.07	0.33
26 Time for independent study projects	2.44	1.54	2.22	1.59	0.22	0.70
27 Work from higher grade textbook	1.56	1.72	1.07	1.39	0.49	1.04
28 More advanced curriculum unit	1.53	1.42	1.20	1.04	0.33	0.93
29 Group by ability across classrooms	1.82	2.00	1.73	2.00	0.09	0.47
30 Higher grade for specific instruction	0.80	1.59	0.56	1.36	0.24	0.74
31 Establish interest groups	1.19	1.26	1.09	1.23	0.09	0.29
32 Student's opinion in allocating time	2.21	1.39	2.20	1.41	0.00	0.22
33 Programmed materials	2.38	1.50	2.18	1.45	0.20	0.59
34 Encourage long-range projects	1.71	1.60	1.47	1.53	0.24	0.86
35 Questions to encourage reasoning	3.84	1.02	3.71	1.20	0.13	0.50
36 Ask open-ended questions	4.16	0.95	4.04	1.13	0.11	0.61
37 Encourage higher-level questions	4.04	1.17	3.84	1.41	0.20	0.59
38 Encourage discussions	4.60	0.69	4.51	0.92	0.09	0.82
39 Use computers	2.73	1.69	2.55	1.74	0.18	0.69

[1] Based on classrooms with students whom the teacher perceives to be gifted but without formally identified gifted students

[2] The difference score is calculated by subtracting the respondent's average score and gifted score. Means and standard deviations are calculated from these difference scores. Difference scores are subject to rounding error.

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